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OF THE

Essex Agricultural Society,

IN MASSACHUSETTS,

FOR THE YEAR 1881,

WITH THE

FIFTY-NINTH ANNUAL ADDRESS,

BY

DR. JAMES R. NICHOLS,

OF HAVERHILL.

PUBLISHED BY ORDER OF THE SOCIETY.

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What Science has Accomplished for Farmers.

AN ADDRESS

BY

DR. JAMES R. NICHOLS,

HAVERHILL, MASS.

ADDRESS.

INTRODUCTORY.

The occurrences of to-day mark an anniversary which to me is specially interesting. In 1855 the annual Fair of the Essex Society was held in this city, (then a town of six thousand inhabitants,) and I was appointed to deliver the address. It is therefore a quarter of a century since I had the honor of presenting to you my first address upon an agricultural topic. I say *to you;* but it is painfully evident that this remark has but a limited application. In looking over this assemblage of the farmers of Essex, the faces of many are missed who were prominent in the management of the Society twenty-five years ago. The organization remains, but many of those who met in 1855 in this audience room have been kindly taken into the bosom of mother Earth, the final resting place and home of us all. The harvests of grasses, and cereals, and tubers, which we have so industriously gathered for many years, have proved unequal and uncertain; but the harvest which the relentless hand of death reaps every day and every hour is certain and abundant, and no one can escape the scythe of the great mower who is noiselessly approaching, and who is very close to many of us. The sustained prosperity and success of this ancient and honorable society, presents a good illustration of the real insignificance

of individuals in holding up any useful and important enterprise. What appears to be the pillars or foundation stones of edifices drop out, but the buildings do not fall. Without disorder and without notice the old supports are replaced by even stronger and better material, and the good work of benevolence or instruction continues. However reverently and approvingly we gaze upon the past, we look to the future with unfaltering hope and confidence. A quarter of a century ago there was more than a suspicion lurking in the minds of the fathers of this Society, that science had aids to offer to practical husbandmen; and this explains perhaps, how it happened, that a laboratory worker, inexperienced in rural affairs was selected to address them at their annual Cattle Show and Fair. Chemistry, at that period, had opened some of the doors of its treasure house of knowledge, but the wide portals which have since swung broadly open, were only ajar, and the popular mind had longings for light and aid not fully satisfied. The labors of Leibig and Stockhardt had done much to prove the intimate connection subsisting between chemistry and husbandry, but facts were to a large extent wanting by which its practical benefits to farmers could be demonstrated in the barn and in the field.

THE TOPICS DISCUSSED.

In looking over the annual reports of the society, I find the address of 1855 to be devoted to a consideration of the relations of Science to Agriculture; to-day you are invited to a review of what science has accomplished for farmers and the farming interests. In discussing this topic, the moral and social benefits which science has conferred upon husbandmen will be first considered; secondly, the material aids which it

has afforded; and lastly, as incidental to the topic, some observations and suggestions regarding farmers' education will be presented.

THE FORMER SOCIAL CONDITION OF FARMERS.

Whilst it is manifest that science in its researches, practical appliances, and suggestions, has ameliorated the social and moral condition of all classes in all parts of the civilized globe, it seems to me that husbandmen of all others have reason to be most devoutly thankful to science for benefits received. This is due to the circumstances under which they are forced to live by their calling, and to their intimate contact with nature in the external world. They have from times far remote resided apart from cities, from the centres of dense population, and been compelled to spend their lives in rural retirement. Hence the mind has had much less support from social association and sympathy than has fallen to the lot of others, and in times of ignorance and superstition they were the greatest sufferers. Living comparatively alone, without books, without any clear understanding of the operations of nature, they became moody, timid slaves to superstitious fears. Let any one read the history of the witchcraft delusions in various towns of New England, or of the religious hates and persecutions prevailing in the last century and consider what it was to live in that unprogressed age. It is indeed difficult to comprehend the mental status, the mind suffering of our ancestors, living in an age when science offered no aid, no generous help to earnest inquiring men and women, or to any one even among those best educated. Movements and changes of the forces of nature, which we now look upon without concern, or regard as beneficent and necessary, they interpreted

as indicative of diabolical or divine malevolence, and thus their minds were filled with dark forebodings.

They were on the lookout for signs and omens, signs on the earth, in the earth, among animals and in the heavens. The pigs must be slaughtered in the right phase of the moon so that the pork would not shrink in the pot, and the howling of a dog under a window was ominous of an early death in the family. The religious hate of that age is illustrated in the case of Thomas Macy of Salisbury, who, in 1658, was fined 30 shillings for sheltering three Quakers about twenty minutes in a heavy rain storm. The records of the neighboring town of Andover indicate the horrible condition of domestic life in the treatment of those charged with the crime of witchcraft during the continuance of the delusion.

It is impossible to adequately realize the terror which a severe thunder storm caused in most families in New England in times prior to the advent of Franklin. Not a single intelligible or reasonable explanation had been given of the cause or nature of electrical phenomena, and people were compelled to observe in awe and superstitious fear, a display of electrical activities, now clearly understood by every school boy. A severe thunder storm was generally regarded as a special manifestation of God's anger, and when, in obedience to law, electrical discharges occurred, taking the human body in their pathway, such occurrences were viewed as indications of the divine displeasure towards the unfortunate individual. The fear of God's wrath, as manifested not only in thunderbolts, but in almost every untoward event or accident, tormented our ancestors, engaged in their rural avocations, to a degree of suffering of which we can form no adequate idea. Celestial visitants and appearances, as comets, eclipses, the

aurora, &c., were all viewed as special divine interferences, presaging calamities, as war, pestilence or famine. A farmer of Essex, living at the beginning of the last century, would have been agitated with terror had he cast his eyes upward to the skies and discovered a fiery object in the heavens like the one upon which we bestowed so much interest during the last summer months. He could look for no morning newspaper which would explain the nature of the terrifying object, nor was there any source from which a ray of light could be obtained. If he turned from the painful object in the skies, to his own surmisings, he gazed into a dark void, which had neither beginning nor ending.

Meteorological changes and movements were likewise productive of much apprehension and fear. In seasons of extreme drought or flood, upon occurrences of early frosts, when the harvests were in danger, deep gloom pervaded the hearts of all. The loss of a harvest, in those days, meant real suffering, and possibly famine and death. We are petulant and complaining, if our crops partially or wholly fail, but we are not tormented with fear of famine with all its dreadful consequences. Our facilities of communication are such, thanks to science and art, that we are able to speedily command the crop resources of any portion of a continent reaching through many degrees of latitude and many climates, so that failure in them all is impossible. We live in the pleasing consciousness that a want of food is a calamity not probable to continue long enough to cause serious alarm in any part of the country.

THE UNIVERSE GOVERNED BY LAW.

The discovery that the movements and operations in nature

spring from law, and not from caprice or blind chance, has had a benificent influence upon the world. It is a discovery of great interest to all in every condition in life. The observance of the growth of a plant as it gradually emerges from the embrace of the parent germ in the earth, and lifts itself up under the control of law, into the air and sunshine, is well calculated to fill the mind not only with astonishment, but with delight. The growth of a plant is not a miracle, it is not in any sense supernatural, and the deep mystery which formerly hung like a cloud over the movements in plant life has been cleared away, and the chemistry of the changes of molecules of matter in the formation of vegetable cells is now clearly understood. We no longer are under the control of terrors and delusions; science has pointed out that we live under the reign of law, that there is order in the universe of matter and mind, that God himself is the author and sustainer of law, and that he does not govern the world by special interferences or by supreme conceit. As farmers, we understand, that in emergencies, we are expected to help ourselves. In its agricultural aspects as well as in all others, the cradle epoch of the world's history has passed away, ignorance with evils so great as to render rural life a burden has been supplanted by the great facts of science and art.

HOME LIFE IN A FORMER AGE.

Probably no one of the industrial classes has been more beneficently influenced in their domestic or home life, by scientific knowledge, than farmers. This subject is exceedingly interesting, made so from a knowledge of the wonderful changes which have occurred in the past century, changes which have produced a complete revolution in all domestic

affairs and household comforts. Those of us whose memory extends over more than a half century, probably have a very correct idea of the character of the homes at the time the guns of Lexington startled the colonies as by an electric shock. There are a few of the old houses still standing in the country which have battled with the storms of a hundred years, and now, like the old "one horse shay" of Dr. Holmes, have about them

"A general flavor of mild decay."

The houses have an interior arrangement suggestive of cold discomfort, and combine but few conveniences for the benefit of the family. In 1775 and thereabouts, the science of chemistry in fact had no existence. No special attention had been given to geology, and what was known of botany, astronomy &c., seems as nothing compared with the extent and accuracy of our present knowledge. But little progress had been made in invention and the arts, hardly one of the modern contrivances for cooking and warming and lighting dwellings was known, not a pound of coal or a drop of kerosene oil, had been burned in the country. No iron stoves were used, and no contrivances for economizing heat were employed until Dr. Franklin invented the iron frame fire-place, which still bears his name. All the cooking and warming was done by the aid of fire kindled upon the brick hearth, or in the brick oven. Pine knots or tallow candles furnished the light for the long winter evenings, and sanded floors supplied the place of rugs and carpets. The water used for household purposes was drawn from deep wells by the creaking "sweep," and it is a curious circumstance that both the wells and the out buildings were often at long distances from the house. In a cold, windy

night in winter, to be called towards either of them was something dreadful to think of. No form of pump was used in this country, so far as I can learn, until after the commencement of the present century. There were no friction matches in those early days, by the aid of which a fire could be speedily kindled; and if the fire "went out" upon the hearth overnight, and the tinder was damp, so that the spark would not "catch," the alternative remained of wading through the snow a mile or so, to borrow a brand from a neighbor. Only one room in any house was warmed (unless some of the family were ill); in all the rest the temperature was at zero during many nights in winter. The men and women of a hundred years ago undressed and retired to their beds at night in an atmosphere colder than that of our modern barns and woodsheds. No furnaces or steam-pipes tempered the wintry air in their dwellings, but they probably slept soundly in the cold, even after eating heartily of shag-barks or butternuts, and washing them down with a quart or two of hard cider. The cooking was very simple, and the nature of the food plain and substantial. But few dishes were seen upon the table; pork and cabbage, corn bread, and milk, with "bean porridge," were the every day forms of food consumed.

If, however, science has accomplished much for farmers and farmers' wives in household comforts and conveniences, it has not added much to the material or pecuniary independence of the family. Scientific progress and invention has taken away those homely industrial occupations which were the prop and stay of our fathers and mothers of a century ago. Winter life on the farm and in the dwelling has been thoroughly revolutionized, but not beneficially so.

WINTER LIFE OF FARMERS.

The active work of farmers and their families was not in any degree suspended in winter until within a period of a third of a century. Indeed, the hardest labor of the year was performed by them in cold weather; they no more thought of housing themselves when the snows came than of living by begging or stealing. The country was comparatively new, and there were clearings to be made, logs to be cut, wood to be hauled, stone walls to be built (for many of our common field walls were put up in the dead of winter; the ways were to be kept clear of snow obstructions; corn was to be shelled and taken long distances to mill; the cows, oxen, horses, and sheep were to be fed, and the pigs looked after.

There were no idle hours for the farmers of a generation ago in winter; and the same may be said of the women and children in-doors. All was hurry in the kitchen from early daylight to sunset; and when the evening darkness came on, the knitting, spinning, darning, and patching continued until eight or nine o'clock, when all went tired to bed. The clothing worn by the family was of domestic make, fabrics of linen as well as of wool. The wool was taken from the backs of the sheep, scoured, carded, spun, woven, and dyed, on the farm premises. The bark of the butternut afforded a favorite tint of yellow-brown; and chipped logwood and copperas, bought of the distant grocer, gave the inky black suited to garments for Sunday use. The hum of industry never ceased in the dwellings of the earlier race of farmers, except at night and on the "Lord's Day."

But a great change has occurred, and now farmers have become, so far as winter life is concerned, a kind of hibernating

animal, like the bears and frogs in the woods and marshes. Coal has taken the place of wood to a large extent even in the country, so there is little chopping to be done; there are no walls to build, no heavy timber to haul, but little corn to husk or shell, few sheep and cows to feed, and but little marketing to do. When the first snow-storm spreads its white mantle over the face of mother earth, all is hushed and silent around most of our farm homesteads. The crowing of a solitary cock, perched upon the barnyard fence, seems to be almost a painful intrusion upon the general silence. As regards the family, the boys are not seen around the chopping-block, or on the hay-mow; the girls are seldom seen at the windows with their knitting-work, or in the snow path leading to the barn, with milk-pail in hand. The boys are away at school, or serving as clerks in some city store; the girls, if at home, sit listlessly about the red-hot parlor stove, discontented, lonely, with "nothing to do." And really, there is very little they can do; there is no wool to card or spin, no flax to run into threads, no industrial labor that will give them even a small return in ready money. The large factories do all the spinning and weaving, and make all the bonnets, stockings, and under and outer garments; and willing hands in isolated homes find no remunerative employment. The great want of the age is some industrial labor which can be performed at farm homesteads, and in the dwellings of the poor, so that a little money can be earned at *home*. In the progress of events, we have the expectation that some new avenues of industry will be opened in this direction, and when this occurs a blessing will rest upon thousands of happy homes.

The discouraged state in which large number of farmers and farmers' families live, is due in a great measure to the

prostrating influence of winter life. They do not come out well in the spring, the nerves are weak, the digestion is impaired, and the mind is cloudy. There is really no valid excuse for this unmanly, unstrung condition. The times have changed, progress has certainly done away with old employments and industries, but it has not closed up avenues to new ones. The trouble is, in the changing of the times, farmers have not changed with them. Every hour of winter could be profitably employed if they would properly understand their resources and capabilities. A higher education is what is needed.

MATERIAL INTERESTS PROMOTED BY SCIENCE.

The material interests of the farmer have been most signally benefitted or promoted by science, and specially so in recent times. It has pointed out better methods of tilling our lands, increasing dairy products, better methods of fattening cattle; it has given us improved breeds of domestic animals, improved implements, improved grasses and cereal products, improved fruits of all kinds, and an immense number of new varieties; it has taught us the importance of underdraining, and how to reclaim bogs and wet meadows; it has given us hay caps, and silos, poisons for our insect pests, and a thousand other things little and great, which I will not attempt to enumerate. Perhaps the greatest service of science is in the direction of providing new forms of plant food from new sources of supply. No matter with how much enthusiasm and intelligence a farmer pursues his calling, he can have but indifferent success unless he provides for his crops ample supplies of foods suited to their wants. He may dig and pulverize his soil, furnish plenty of water, and sow the soundest

seeds, unless the sprouting plant finds within easy reach something to feed upon it must languish and die. A generous and full supply of plant food lies at the very basis of successful husbandry.

In the address of a quarter of a century ago the matter of fertilizers was considered at some length, and it is interesting to contrast the extent of our knowledge then and now. We knew then, that nitrogen, phosphoric acid, and potash, constituted the great fundamentals of plant nutrition, but it was not known that any abundant and available sources of supply existed outside of animal excrement and waste organic substances. In speaking upon this topic in the address, the want of increased fertilizing materials is dwelt upon, and whilst deploring the existence of this great want, it was confidently predicted that it would be supplied. The language used is as follows: "We can hardly doubt as regards the abundant resources of nature or cherish a hesitating faith in respect to a future supply of all our wants in feeding the crops upon our farms. It must be that mother earth holds within her bosom all the materials needed to produce sustenance for man, and I feel confident that chemistry, which holds the key which has unlocked many rich chambers in the storehouse of nature, will open others fully capable of supplying all the wants of the husbandmen."

Since these remarks were made in the hearing of some of you, the science of chemistry has produced the key, unlocked, and thrown wide open the doors to nature's vast storehouses in which are found inexhaustible supplies of phosphoric acid, potash and nitrogen. How interesting is the fact, that no special favor or partiality has been shown to any section of the earth, in the distribution of these invaluable treasures. Vast

stores of phosphoric rocks had been found in Russia, Spain, France, the United States, and to some extent in England. During all the centuries, down to the last half of the present, these repositories of phosphoric acid had remained unrecognized. In Russia it is known that the very stones used for building purposes, paving streets, and for wells, and which were regarded as detestable ground incumbrances in some sections, contained in great abundance the precious elements of plant nutrition. In this country, in the region near Charleston, South Carolina, the phosphatic nodules had long been noticed on the surface of the low basin lands, and the farmers whose fields were suffering for the food these rocks contained treated them as nuisances to be got rid of in the easiest way possible. In Russia, the extent of country covered by these stones is estimated by Prof. Englehardt to exceed 10,000 square miles. In Spain there are mountains of phosphatic rocks not easily reached at present, and at Charleston, the area of nodule beds is larger than the whole state of Rhode Island.

THE CHARLESTON PHOSPHATE BEDS.

A visit to this locality two years ago, gave me great pleasure and a fund of interesting information. Geologically speaking, the region is in every respect remarkable. It is a vast basin, covered with mud and silt, and formerly open to the inflow of the tide. In this region are found the most wonderful remains of ancient and extinct species of animals. There are whole acres richly studded with fossils. Among these have been recognized the bones of the mammoth, mastodon, megatherium, mylodon, magalonyx, phocodon, several varieties of the sauri; also teeth and bones of the shark and numerous other fishes

in great variety; with teeth and bones of the horse, dog, sheep, ox, and hog, differing but little, if at all, from those belonging to our present domestic animals. Pieces of pottery, too, have been found, together with stone hatchets, all in the same bed, almost identical in their character with similar remains found some years since, near Abbeville, in France. There have also been found one or two human bones, though the evidence on this point is somewhat defective.

This strange collection, this miniature sepulchre of the ages, where animals extinct sleep side by side with others, the ancestors, perhaps, of our daily companions; where men, beasts, reptiles, and fishes would seem to have found a common grave, —these fossils occur in the postpliocene strata.

In a heap of the rocks, representing, perhaps, a couple of cords, I found fragments of deers' horns, perfect sharks' teeth, and numerous other fossils of more or less interest. In answer to the question, What is the history of this great sea-basin? I have little to say, as nothing is positively known regarding it. All rests upon conjecture, and of the hypotheses which have been presented some are so preposterous as to be unworthy of mention. That vast numbers of marine and land animals have in past ages been here entombed does not admit of a doubt. The evidence upon this point is conclusive. It may have been for some reason very enticing foraging ground for the two classes of animal life, and here they found common graves. It could not have been by any sudden entombment, as it is not probable that such immense numbers could have been congregated at any one time. The burials must have extended over great epochs, and those very far in the past.

The rock nodules holding the phosphates are detached

masses of rounded form, and correspond in size with our New England cobble-stones. They are formed out of the bones and fossil remains by solution, and subsequent aglutination, and rolled into small masses by the action of waves upon ancient sea beaches. I have never been so forcibly impressed with the evidence of design, specific and direct, as when studying these most interesting deposits. No one who has not looked into the subject, can form any adequate idea of the extent of manufacture and commerce which has grown out of this discovery. The commerce of the port of Charleston has been immensely increased. Vessels are continually arriving with cargoes of sulphur, guano, fish pomace, etc., and many are departing loaded with the rock and manufactured phosphates. England has thus far been the largest consumer, and English manufacturers have houses established in Charleston devoted to the interests of the trade. The value of the fertilizers shipped in 1870, three years after the discovery, was upwards of two millions of dollars. It is stated that the yearly production at the present time is about 300,000 tons of fertilizers, two-thirds of which is exported to England, and only one-third consumed at home.

Chemistry has pointed out that not a plant exists upon the earth which has not need for phosphoric acid, and when soils were in danger of losing their normal supply, it brought to view the significant fact that rocks piled almost upon our door-steps held it in inexhaustible quantities. Thus science has benefited agriculture in supplying this element of plant food. What has it done for the others ?

NITROGEN AND POTASH.

Nitrogen, the most expensive and hitherto the hardest to

obtain of the three important constituents of plant food, has been presented to us in several new combinations derived from formerly unknown sources. The natural nitre beds of Chili have, during the past twenty years, supplied vast quantities of nitrate of Soda, and I am happy to be able to state that information has just been received from Dr. Hanks, State Mineralogist of California, that immense beds of nitrate of Soda have been discovered in Nevada at Brown's station, Hambott Desert. This addition to the mineral resources of our marvellous country is one of great importance, and has a direct bearing upon the future agricultural interests of the nation. Beside the nitric acid salts, nitrogen is furnished in sulphate of ammonia which comes principally from the gas manufacturers. The herring fisheries on our own and other coasts, supply enormous quantities of dried fish pomace, which is rich in nitrogen. The entire waste organic products of our cities and large towns which hold abundance of nitrogen in available forms will soon be utilized, as recent experiments promise success in this direction. Most important of all, perhaps, is the reasonable expectation that the vast ocean of gaseous nitrogen in the air, will be fixed in certain combinations, so as to be made available for the uses of husbandmen. Chemistry is at work upon this problem, and the outlook is hopeful to say the least.

What of potash, the third in the trio? I have only to point out to you the enormous production of this alkali, at the salt mines in Germany, a quantity so large as to influence prices of potash combinations the world over. Notwithstanding the increased consumption in agriculture and the arts, and the failure of supplies from wood ashes, the price of potashes has greatly declined during the past fifteen years, and it is proba-

ble that still farther decrease in prices will occur. In the crude muriate, and to some extent in kainite, we have presented potash in available forms for agricultural purposes at comparatively low rates. Twenty-five years ago, this source of the agent was entirely unknown.

Science has pointed out correct methods of combining these substances to fit them for farm use, and they have been employed in enormous quantities, rendering our lands fertile and increasing our crops. During the past twenty years, I have prepared and used on my farm nearly one hundred tons of artificial fertilizers, and the employment of domestic manures has been to a large extent dispensed with. Not a load of animal manure has been purchased, and the farm, I think, will compare favorably with others in the county in condition and productiveness. The pressure of a strong temptation is felt to extend remarks upon the most important topic of farm fertilization, but time and the scope of this address forbid.

INFLUENCE OF SCIENCE UPON FRUIT CROPS.

Prominent among the benefits conferred by science is the improvement of our fruit crops. It does not require a memory extending over many years to recall a period when the apple was confined almost exclusively to varieties suited only to cider making; and, as regards pears, until within thirty years none of the really good varieties were known upon our farms. Peaches we had to some extent, but the fruit was acid and imperfect. Fifty years ago, not a single horticultural society existed in the United States, and there were but few agricultural societies; now there are more than fifteen hundred state and county organizations. At that period the products of our soil were so insignificant as not to be thought

worthy a place in the statistics of our industry; now our exports amount to more than six hundred millions of dollars annually. Of apples alone, we exported last year one million three hundred thousands in value, and of canned fruits nearly one million. As regards the soft fruits, strawberries and raspberries, I do not remember to have seen cultivated varieties until long after reaching adult age. Now we have of strawberries alone cultivated in gardens, more than three hundred and fifty distinct varieties. Of grapes we formerly had none but those which grew wild in the swamps; now we have about one hundred varieties under cultivation, and grape culture is an industry of immense importance. We are rapidly approaching a time when this country will be the greatest wine producing region in the world. Of pears we have now more than eight hundred and ninety varieties, and on many farms and in many gardens this noble fruit is grown in such abundance as to become almost a waste product. Our county of Essex is peculiarly adapted for fruit growing, and it has become a source of considerable revenue to farmers. We have not been able to supply our markets with peaches in late years, but I confidently believe that we have entered upon a cycle of time when this fruit will not continue to fail us. Disease in the tree and fruit, caused perhaps by insects, is a greater obstacle to contend with than climate. Careful observation extended over many years leads me to conclude that the failure of the peach crop has not been due to our severe winters. Fruits manifestly are subject to laws of periodicity; that is, they have cycles of barrenness and great productiveness, and it is probable the pear is now near the end of a cycle of extreme over production, and the peach is entering upon one of generous production. The wide spread leaf

blight in the pear, is a significant indication of waning vitality and the fruit now so abundant as almost to create disgust, may soon become the rarest and choicest of any upon our tables. The peach crop in the Middle States has, the present season, failed to a large extent, whilst that in Massachusetts would have been very large if disease had presented no interference. The enormous value of this crop to New Jersey, Delaware and Virginia, is but imperfectly understood, and it is only from statistics that we obtain correct knowledge. The long train of cars loaded with the fruit brought over the New England Railroad, convey not only the most delicious morsels to tickle the palate, but rich odors, more grateful to the sense of smell, than those which came from "Araby the blest." It is known that the odor of the peach is perceptible in the atmosphere along the line of the railway for a considerable time after the trains have passed.

AGRICULTURAL EDUCATION.

In any statement of the benefits which science has conferred upon the farming interests, the inference must naturally follow that very many farmers have not secured or participated in the benefits so freely and generously offered. This arises from several circumstances and obstacles. Some are naturally disinclined to examine into new methods and new discoveries; they prefer the old ways, and have little confidence in anything new; others are too indifferent to give attention to that which requires a little thought and the exercise of discriminating judgment. There are farmers, as well as men in other pursuits, who seem to have been born under the influence of evil planets; their dish, so to speak, is always wrong side up. They come into the world the discouraged offspring of perhaps

discouraged mothers, and their mental feebleness unfits them to command advantages which the world offers. But the greatest obstacle is a want of proper instruction, the want of some elementary training in the principles of science to afford a foothold for independent investigation and self culture. The whole theory of agricultural education is based on the idea that farmers' boys and the young men must be educated by attending some agricultural college, so called, for a term of years; but the farmers themselves, the real workers in the field, may be left to obtain light and help from the profitless disputes and endless discussions, common in farmers' clubs and institutes. This is manifestly all wrong, and I am certain, gentlemen, you will sustain me in so judging. It is an erroneous view that men in middle life, and those further advanced, are incapable or not willing to be instructed accurately in those branches of scientific knowledge which give to modern husbandry all its important advantages. The young men may attend the agricultural colleges, or any other institutions of learning, and be greatly benefitted by a prolonged course of study, but we need another kind of college—a *farmer's college*, where the practical workers can be graduated without diplomas, at the end of a brief course of instruction extending over a few days or weeks.

The language of science and its methods seem to most as unintelligible and very difficult to be learned. It is so to a certain extent, but abstract science need not belearned. It would be absurd to attempt to teach a middle-aged workingman fully regarding chemical symbols and formulas, but you can teach him how to estimate the money value of a fertilizing compound offered for sale in the markets. How few the purchasers who are competent to sit down in a store before a bag of that

apocryphal mixture called "superphosphate," and from the labels or stencillings which purport to present a statement of the nature of the compound, obtain any clear information of its constitution or actual value? Every farmer certainly ought to be able to do this for his own protection, and there is no good reason why he cannot.

These views are based on many years spent in scientific investigation and technical work, and in conducting the affairs of an experimental farm. From intimate association with practical husbandmen in many parts of the country, I am convinced that they can easily acquire the leading facts and principles in any department of science, if right methods of instruction are adopted, and it is a wrong view which confines instruction to youth, and ignores the busy working middle-aged man who is hungering for light and knowledge.

A FARMERS' SCHOOL.

I will endeavor to present a brief outline of a school of instruction for farmers which has been carefully considered, and regarded as practicable. To afford a clearer understanding, it may be assumed that a school has been established at Danvers, Andover, Salem, Haverhill, or some other convenient point, for the benefit of the farmers of Essex.

The building in which the school is held may be a hall with convenient rooms attached, such as is found in several of the cities and larger towns, or it may be a building specially constructed, inexpensive but comfortable, with lecture room, general meeting room, and another which can be improvised for a laboratory. Two terms are held each year, one in June at the close of the planting season, the other in December and each continues during two weeks. The instruction is

mainly by familiar, practical lectures continuing one hour, and each fully illustrated by experiments, specimens, models, plants, seeds, etc., so as to convey to the eye as well as to the ear, a clear understanding of the topic considered. They are scientific lectures presented after scientific methods, differing only in the use of language. That is employed which is adapted to non-scientific minds. There are six of these lessons every day, and during the week of six working days, there would be thirty-six lectures, and in the term of two weeks, seventy-two.

There are six upon chemistry, elementary and applied, each lecture profusely illustrated by experiments; six upon the microscope, its use and application to husbandry. By means of the solar microscope and the electric lamp, most beautiful and instructive lessons are given. Six lessons upon fertilizers, domestic and commercial, illustrated by experiments, in compounding and preparing for farm use, &c. Six lectures upon how plants feed, and how plants grow. Six lectures upon the history of soils, their origin, formation, &c. Six upon dairy products, milk, cream, butter and cheese.

These comprise the course for the first week, summer term, and are presented as typical of the course and nature of the instructions imparted. The lessons begin at 9 o'clock each morning, and the topics follow each other until 12, noon. At 2 the lessons are resumed and continue until 5 o'clock, P. M. The daily work is as follows: at 9 o'clock, Chemistry; 10, the Microscope; 11, Fertilizers; 2 P. M., How Plants Grow; 3, Soils; 4, Dairy Products. This arrangement gives variety and prevents weariness. Text books may or may not be used, but each attendant is provided with book and pencil for taking notes, and during the lessons any one is permitted to ask questions, but no discussions are permitted.

One, two, four, or the whole course of lectures may be attended, as suits the inclination or convenience of the farmer. It is seen at a glance how many interesting and important topics are presented in a single week, appealing to the understanding through the eye, as well as the ear. Extend them through another week, or over three more, during both terms and changing the topics so as to cover a complete course in scientific husbandry, and consider what a vast amount of accurate practical information is afforded by this school, in the year, comprising only four weeks' instruction.

The instructors, four or six in number, are selected with special reference to their fitness for the different positions to be occupied. There are men of good common sense, having an aptness for popular instruction, and a competent fund of positive scientific knowledge, and also ingenious in illustrative experiments and in the use of apparatus. As regards funds for the support of such schools, they should be furnished by the State, and it could well afford to do so. Can any one doubt the influence of such schools upon real agricultural progress? The solid prosperity of the farming interests must be promoted by this higher education, and I believe they would be well patronized by working farmers, the class now so much neglected.

One body of teachers would supply the wants of the State, if schools were established in eight or ten different localities, as they could move from one to the other, having school terms in different months of the year. These schools would be for the benefit of the youth as well as for middle-aged men; the farmer and his sons would attend them in winter, and doubtless in summer, for the attractions and advantages would be

so great that no ordinary hindrances would be allowed to stand in the way.

For several years I have entertained the design of endeavoring to secure the establishment of a school of husbandry for the benefit of the husbandmen of Essex County, on the plan which has been outlined, and the barn-floor lecture, given in my farm barn in 1878, at which many of you were present, was but an experiment to test the feasibility of the undertaking. The success of that homely effort dispelled all doubt of the wisdom of the plan, and it would have been carried out at once, had not failing health and a pressure of business, public and private, prevented. I still hope to be able to aid in such an important enterprise, and that the time is not very remote when the school will be in active progress.

Our Agricultural Colleges, of which there is but one in any State, (however generally useful they may be), do not meet the needs of practical agriculture, and neither do the agricultural schools in Europe, although better than ours, and far more numerous. In England, the famous college at Cicencester has proved a complete failure, and the same may be said of most of the other schools. *France* has 43 schools of agriculture with about 30 pupils in each. The government pays the board of each pupil, and allows him 70 francs a year for clothing. *Germany* has 150 schools of agriculture, arboriculture and viniculture; each has farms and gardens attached. *Austria* has 70 schools with 2200 students, but better than all she has 174 agricultural *evening* schools with 5500 students. Italy is in advance of most European countries in its provisions for agricultural education, but it must be understood that none of these comprehend the idea of educating the workingmen on the farms. In this they are defec-

tive, and satisfactory results will not be realized until radical changes are made.

SCIENCE AND THE CORN CROP.

The relations of science to agriculture are indeed very close and intimate, but we must not conclude that it is capable of removing all obstacles or of helping us out of all our difficulties. In advocating a higher education for soil cultivators, I attach far more importance to its general influence in elevating mind and thought, (thus increasing the powers of induction and analysis), than I do any specific helps, great as those may be. Applying it to the special department of soil fertilization, a field in which it has perhaps conferred its most marked benefits, it is manifest that the horizon is not cloudless in that direction, and that many important questions are still involved in doubt. We have a curious illustration of this, in the fact that the proper or best form of plant food required by a crop of Indian corn still remains unknown. Messrs. Lawes and Gilbert, the distinguished experimenters in England, say that a "mixture of nitrate of soda and superphosphate is the best possible manure for corn." Prof. George Ville, director of the Government farm at Vincennes, France, says, "that nitrate of potash affording 24 pounds of nitrogen and 79 pounds of potash; and acid phosphate of lime affording 81 pounds of acid and 360 of sulphate of lime, are necessary for one acre of corn." Mr. Stockbridge, of the college at Amherst, gives a formula, which affords 64 pounds of nitrogen, 31 of acid, and 77 of potash, for an acre.

It will be noticed that Lawes and Gilbert omit potash entirely, and Prof. Ville and Stockbridge supply it in their formulas. All include nitrogen; Mr. Lawes specifying no quantity, Mr. Ville using but little, and Stockbridge a very large amount.

My own experiments and observations, which extend over a period of nearly a quarter of a century, lead me to conclude that no fixed formula can be devised which will insure on all lands a good crop of corn, or of any other cereal. No two fields in the state, county or town, or indeed on any large farm, are adapted to like treatment; we are liable to be misled by these crop formulas. They are asked for and there is a strong temptation to supply them, but they are at best but imperfect guides. I have uniformly raised heavy crops of corn without the use in any instance of animal excrement, but the formulas have been adapted to the ascertained wants of the field, and it is here, gentlemen, where the needs of a higher scientific training for farmers come into view. A cultivator of the soil must be fitted to observe, to experiment intelligently, to study his own land, before he can secure the highest success in his vocation, or avail himself of the important benefits which science is capable of affording.

But I will not detain you longer. It must be obvious to all that the limited scope of a single address is entirely inadequate to a proper discussion of the important subjects to which I have called your attention. The object has been to awaken thought and discussion, which lead to right action, rather than to amuse or instruct.

We have lived, gentlemen, those of us who are standing near, or upon the threshhold of the unknown life, in the most important and interesting epoch of time known to man since his advent upon our planet. The startling events in the unfolding of the great forces and mysteries of nature, mark our age as singular and wonderful, and the language of our hearts and our lips is, I trust, that of sincere thankfulness for having lived in it. There has been no age when thought, study,

energy and enterprise received higher or surer rewards, or when deeper misfortune and unhappiness rested upon the indifferent, the lazy, and the doubting. The husbandman's vocation forms no exception to the statement, "Life is active, life is earnest," and let us all meet its duties, seeking knowledge wherever it is to be found.

Sung on the occasion of the address before the Essex Agricultural Society, at their sixty-first annual exhibition, in Haverhill, September 28, 1881.

HARVEST HYMN.

BY JOHN CROWELL, M. D.

O, bounteous Nature, by whose hand
The changing seasons come and go;
The forest waves, the mountains stand,
And mighty rivers onward flow!

Amid thy forces, vast and grand,
The skill of man has noble share;
The active brain and willing hand
Work with the sunlight and the air.

O, wonderous power of thoughtful toil!
Strike with thy magic rod, and lo,
From bleak New England's rocky soil,
Abundant milk and honey flow!

The fields are rich with golden grain,
With fruit and vine the hills rejoice;
From fragrant mead and fertile plain
Exultant Labor lifts her voice!

To God, who giveth earth's increase,
We raise our grateful harvest song;
He crowns the closing year with peace,
All life, all force, to Him belong.

CATTLE SHOW AND FAIR.

The sixty-first Annual Exhibition was held at Haverhill, Sept. 27 and 28, 1881. The attendance was very large and the Fair a successful one.

The show of Cattle, Horses, Agricultural Implements, &c., was held on the farm of George W. Duncan, Esq., as was also the Ploughing Match.

The exhibit of Fruits, Flowers, Vegetables, Domestic products, &c., was in the City Hall.

The entries in the several departments were as follows :—

Fat Cattle, 8; Bulls, 14; Milch Cows, 24; Herds of Cattle, 4; Heifers, 45; Working Oxen and Steers, 11; Steers, 9; Town Teams, 3; Stallions, 8; Brood Mares, 13; Family Horses, 10; Farm and Draft Horses, 6; pairs of Draft Horses, 8; Colts, 17; Swine, 40; Sheep, 21; Poultry, 34 coops; Ploughing, 26 entries; Agricultural Implements, 3 collections and 9 entries; Bread and Honey, 18 entries; Dairy, 5; Pears, 78 entries, 300 plates; Apples, 49 entries, 165 plates; Peaches, Grapes, &c., 54 entries, 104 plates; Flowers, 32 entries; Vegetables, 60; Counterpanes and Rugs, 159; Articles manufactured from Leather, 10 entries; Fancy Work and Works of Art, 182; Children's Work, 20.

CHAS. P. PRESTON, *Secretary.*

FAT CATTLE.

The Committee on Fat Cattle report that eight cattle were entered for premium, all of superior quality, good shape and fine condition. Six only complied with the rules of the Society, requiring exhibitors to state manner and expense of feeding, The Committee award the premiums as follows :—

To Joseph Newell, of West Newbury, for his Hereford Cattle, the first premium of $12.

To S. & N. Longfellow, of Groveland, for Steer four years old, the second premium of $10.

To Thomas G. Ordway, of West Newbury, for pair of cattle, the third premium of $6.

Sherman Nelson, John A. Ellis, Elbridge Merrill, Charles Perley, Benj. E. Emery.—*Committee.*

BULLS.

The Committee on Bulls award as follows :—

To Eben Sutton, of North Andover, for Short Horn Bull, "Young America," first premium, $10.

C. S. Bradley, West Newbury, for Short Horn Bull, "Edward 3d," second premium, $6.

W. A. Russell, Lawrence, Holstein Bull, "Sligo," 5 years old, with 5 of his stock, first premium, $15.

Holstein Bull, "Lord Clifden," 3 years old, first premium, $10.

Richard Newell, West Newbury, Jersey Bull, "Gray Earl," 2 years old, first premium, $10.

George W. Russell, Lawrence, Jersey Bull, second premium, $6.

J. D. W. French, North Andover, Ayrshire Bull under 2 years old, first premium, $6.

C. S. Bradley, West Newbury, Bull under 2 years old, second premium, $4.

James P. King, Peter D. Smith, Andrew Mansfield.—*Committee.*

MILCH COWS.

The Committee on Milch Cows submit the following report:

There were sixteen cows entered for the different premiums offered by the Society, and the committee, after a careful examination of the cows and the statements, recommend the following awards:—

Special Premium of $25, for the best Milch Cow of any age or breed, with satisfactory records in quarts or pounds of her daily yield of milk for one or more years, (for which there were three entries), to William A. Russell, of North Andover.

For the best Milch Cow, Foreign, Native, or Grade, (for which there were five entries).

1st Premium, $12, to H. G. Herrick, of Lawrence, for his Grade Jersey.

2d Premium, $6, to John M. Barry, of Haverhill, for his grade Durham.

Thorough Bred Ayrshire, (for which there was but one entry), to each of the premiums.

1st premium, $12, to J. D. W. French, of North Andover, for his Cow, "Nina Lyman."

2d Premium, $6, to J. D. W. French, of North Andover, for his cow, "Roxanna 5th."

THOROUGH BRED HOLSTEINS.

1st Premium, $12, to William A. Russell, North Andover, for his cow, "Maud Clay."

2d Premium, $6, to William A. Russell, North Andover, for his cow, "Maid Fairfax."

NATIVE OR GRADE.

1st Premium, $12, to William A. Russell, North Andover, for his cow "Bessie," a grade Holstein and Durham.

2d Premium, $6, to Nathan Priest, of Haverhill, for his Native Cow.

Two entries were not accompanied with a written statement

that met the requirements of the Society, and one without any statement, and for that reason the owners of the stock were not entitled to a premium.

There were some good Imported Thorough Bred Jerseys entered by Richard Newell of West Newbury, and by Thomas Saunders of Haverhill, worthy of a premium, but for the want of a statement the committee were obliged to pass them. Also a cow owned by J. E. Gale, of Haverhill.

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows :--

I enter for your consideration my Holstein Cow, "Maid Marion," 9 years old, for the special premium of $25.

Her milk record for four years is as follows:

First season with first calf,	421 days,	11,990 pounds.
Second season,	304 "	9,375 "
Third season,	305 "	9,560 "
Fourth season,	311 "	11,700 "
	1341 days,	41,625 pounds.

41,625 pounds, or an average of 31.06 lbs. per day.

Dropped her last calf Oct. 26, 1880, and is due to calve again Feb. 5th, 1882.

Her record from Nov. 1st, 1880, to Sept. 1st, 1881.

Nov.,	30 days,	1702 lbs.	56 2-3 per day.
Dec.,	31 "	1502 "	50 1-10 " "
Jan.,	31 "	1441 "	46 1-2 " "
Feb.,	28 "	1296 "	46 1-3 " "
March,	31 "	1266 "	40 5-6 " "
April,	30 "	1313 "	43 4-5 " "
May,	31 "	1366 "	44 1-5 " "
June,	30 "	1154 "	38 1-2 " "
July,	31 "	1108 "	35 4-5 " "
Aug.,	31 "	1037 "	33 1-2 " "
	304 days,	13,235 lbs.	

An average of 43 53-100 pounds per day.

Her feed in summer, has been grass until July, and then in addition to the grass, green corn fodder and 3 quarts meal per day.

In winter what dry hay, corn fodder and ensilage she will eat up clean, with 8 quarts shorts, 4 quarts corn and cob meal, 1-3 bushel of roots.

STATEMENT OF H. G. HERRICK.

To the Committee on Milch Cows :—

I enter for the Society's premium for best milch cow, my Grade Jersey, 6 years old.

She dropped her last calf April 4, 1881, is due to calve again April 3d, 1882.

Her record in May is as follows :—

May	15,	A. M.	9	qts.;	P. M.,	9	qts.	18	quarts.		
"	16,	"	9	"	"	9	1-2	"	18	1-2	"
"	17,	"	8	1-2 "	"	9	1-2	"	18		"
"	18,	"	9	"	"	8	3-4	"	17	3-4	"
"	19,	"	9	"	"	9	1-2	"	18	1-2	"
"	20,	"	8	3-4 "	"	9	1-4	"	18		"
"	21,	"	9	"	"	9		"	18		"
"	22,	"	8	3-4 "	"	9	1-4	"	18		"
"	23,	"	9	"	"	9		"	18		"
"	24,	"	8	"	"	9	1-4	"	17	1-4	"
"	25,	"	9	"	"	8		"	17		"
"	26,	"	8	3-4 "	"	9		"	17	3-4	"
"	27,	"	9	"	"	9		"	18		"
"	28,	"	9	"	"	9	1-4	"	18	1-4	"
"	29,	"	8	3-4 "	"	9		"	17	3-4	"
"	30,	"	9	"	"	9	1-4	"	18	1-4	"
"	31,	"	8	3-4 "	"	9		"	17	3-4	"
	17 days,								304	3-4	quarts.

An average of 18 quarts per day.

In the month of September her average daily yield was 12 quarts.

Her feed has been hay in winter, grass in summer with 2 quarts of corn meal, and a part of the time 1 quart of cotton seed meal, daily.

P. S. This cow is supposed to be pure bred but as I have no record I enter her as a grade.

STATEMENT OF JOHN M. BARRY.

To the Committee on Milch Cows :—

I enter for the Society premium, for the best Milch cow, one Brindle cow, from native stock crossed with Durham, nine years old. She dropped her last calf, July 5, 1880, is due to calve again Oct. 2, 1881.

Her average milk per day in July, was 18 1-2 quarts ; in August, 17 quarts per day.

Her feed was common pasture without any grain, except 4 quarts of shorts per day for one week after calving.

STATEMENT OF J. D. W. FRENCH.

To the Committee on Milch Cows :—

I enter my Ayrshire cows, " Nina Lyman " and " Roxanna 5th," for premiums for thorough-bred Ayrshire.

" Nina Lyman," No. 4611 A. R., dropped April 15, 1874, dropped her last calf Feb. 20, 1881, is due to calve again Jan'y 20, 1882.

Record of Milk.

1878, 6631 lbs.; 1879, 5485 lbs.; 1880, 5327 lbs.

" Roxanna 5th," No. 4606 A. R., dropped May 27, 1877, dropped her last calf March 15, 1881, is due to calve again Feb. 20, 1882.

Record of Milk.

1880, 5387 lbs.

The feed of these cows has been in summer, pasture, with sometimes in addition, fodder, grass, and shorts, from 2 to 4 qts., according to the feed in the pasture. In winter, dry hay, 1 peck roots, 2 qts. corn and cob meal, per day.

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows :—

I enter for the Society premium my thorough-bred Holstein cows, " Maud Clay," No. 390 and " Maid Fairfax," No. 377.

" Maud Clay" is 5 years old. Dropped her last calf October 6, 1880, is due to calve again Oct. 6, 1881. Milk record from Jan. 1st to July 1st, 1881 :—

January,	31 days,	1396 lbs.
February,	28 days,	1248 lbs.
March,	31 days,	1022 lbs.
April,	30 days,	1041 lbs.
May,	31 days,	1177 lbs.
June,	30 days,	805 lbs.
	181 days,	6689 lbs., an average of 37 lbs. per day.

" Maid Fairfax" is 5 years old. Dropped her last calf Jan. 6, 1881, is due to calve again Dec. 31, 1881. Milk record from Jan. 10 to July 1, 1881 :—

January,	21 days,	954 lbs.
February,	28 days,	1248 lbs.
March,	31 days,	1022 lbs.
April,	30 days,	1041 lbs.
May,	31 days,	1107 lbs.
June,	30 days,	850 lbs.
	171 days,	6222 lbs., an average of 36 1-2 lbs. per day.

Their feed was grass in summer until July, and then in addition to the grass, fed green corn-fodder and three quarts of meal a day. In winter, what hay, corn-fodder, and ensilage they would eat, with eight quarts shorts, four quarts corn and cob meal and one-third bush. roots.

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows :—

I enter for the Society's premium for Native or Grade cows, "Bessie," a Grade Holstein crossed with Durham, 6 years old. Dropped her last calf Nov. 11, 1880, is due to calve again Nov. 1, 1881. She gave from January 1st to May 1st, 4252 lbs. of milk, an average of 30 lbs. per day.

The manner of feeding the same as for thoroughbreds.

STATEMENT OF NATHAN PRIEST.

To the Committee on Milch Cows :—

I enter for the Society's premium on Native or Grade cows. My cow is 9 years old. Dropped her last calf in March, 1881, is due to calve again in June, 1882, Average of milk per day through June, 16 quarts ; and 10 quarts per day through September.

Her feed has been common pasture, with 5 quarts of shorts and one quart of meal per day.

The committee found no entries of cows for their butter-making qualities. We are aware that the present manner of feeding tends towards milk-making, yet we hope the art of butter-making will not be lost sight of here in Essex county.

We hope that next year some of our farmers will exhibit some cows with statements showing how much butter they will make per day or month, and the amount of milk required for a pound of butter. Respectfully submitted,

Henry A. White, Isaac N. Lane, Chas. J. Peabody.—*Committee.*

HERD OF MILCH COWS.

There were three herds of milch cows entered for premium. One of twenty thorough-bred Short Horns, by C. S. Bradley of West Newbury. One of six thorough-bred Holsteins, and one grade Holstein and Ayrshire, by W. A. Russell of Lawrence; and one of five pure Jerseys, by Thomas Saunders of Haverhill.

The committee recommend to W. A. Russell of Lawrence, the first premium of $18.

Mr. Russell has complied fully with the requirements of the Society, and, as will be seen by the annexed statement, exhibits a remarkable yield of milk, which perhaps, cannot be equalled in the county.

It will be said that these cows were fed high, and ought to give some milk; true, but it must be remembered that a cow is simply a machine for the conversion of raw material into milk, and that while there is a difference in machines the manufactured article cannot be expected in quantity, without a liberal supply of the material of which it is made.

But few cows have the capacity and strength of constitution of the Holsteins to bear feed, and we venture the assertion that the cows of Essex County, fed proportionally to Mr. Russell's will not average over half the milk produced by this herd. It is evident that Mr. Russell has some very fine machines for the production of milk, and that, if the end sought for be the production of milk for sale or the manufacture of cheese, they represent a very valuable breed of cattle, as their milk is well known to be rich in caseine.

Judge Bradley exhibited as fine a herd of thorough-bred Short Horns, bred for dairy purposes, as probably exists in the State, but, as they have been kept for breeding purposes, and no record kept, and so no written statement given; the committee could not give him a premium, but recommend a gratuity of $12, equal to the 2nd premium.

Your Committee feel that the Society is under obligation to Judge Bradley for exhibiting so fine a herd of thorough-bred animals of a breed, which, in its purity is of so high price as

to be beyond the reach of the common farmer, but in its grades has added more to the value of the neat stock of the country, for the practical purposes of life, than any other.

Mr. Saunders has a fine herd of Jerseys, evidently well adapted for the purpose for which that breed is usually kept, viz.: rich cream and fine butter. The committee recommend to Thos. Saunders of Haverhill, the 3d premium of $10, for his herd of pure Jerseys.

WM. B. CARLETON,
For the Committee.

STATEMENT OF WM. A. RUSSELL.

To the Committee on Herd of Milch Cows:—

I enter for your consideration my Holstein cows "Lady Clifden," "Maid Marion," "Cathrena," "Lavinia," "Margo," "Lady Lawrence," thorough-breds. "Sally," a grade Ayrshire and Holstein.

"Lady Clifden"	dropped	last	calf,	May 15.
"Maid Marion"	"	"	"	Oct. 26.
"Cathrena"	"	"	"	Feb. 6.
"Lavinia"	"	"	"	Mar. 5.
"Margo"	"	"	"	Feb. 13.
"Lady Lawrence"	"	"	"	Mar. 6.
"Sally"	"	"	"	Feb. 5.

Their milk records, which were started at different times and added up to the 1st of Sept., are as follows, (the milk of the different cows being weighed at every milking and recorded):

					lbs.
"Lady Clifden's"	record	for	103	days,	5969
"Maid Marion's"	"	"	304	"	13235
"Margo's"	"	"	199	"	8763
"Cathrena's"	"	"	206	"	7486
"Lavinia's"	"	"	176	"	6209
"Lady Lawrence's"	"	"	177	"	6106
"Sally's"	"	"	199	"	6578
			1364		54346

An average of 39.91 lbs. per day.

Their winter feed has been 8 qts. meal (ground with cob), 1-3 bush. roots and what hay, corn fodder, and ensilage they would eat, feeding them at about 7 o'clock in the morning, and again at 3 in the afternoon. Watered twice a day after feeding.

Summer feed, pasture with 3 qts. meal, and after July 1st, fed them with hay or green corn fodder, morning and night.

Cows giving a heavy flow of milk, are milked 3 times a day.

Respectfully submitted,

WM. A. RUSSELL.

STATEMENT OF THOMAS SANDERS.

This Herd of cows was wintered chiefly on ensilage, and all except "Decca 3d" and "Birch-brow" calved last autumn. "Decca 3d" calved July 1st, and "Birch-brow" May 12th.

Since going to pasture have had no grain except for the last three weeks, when they have had 8 qts. of shorts among the *five*, or about 3 pints each, every night. They have given on an average 10 qts. each a day, since calving.

I enter these cows not so much for the quantity of milk they give, as for their wonderful lasting qualities. I endeavored to select such cows as in my judgment possessed this quality, and I have been exceedingly gratified by the result.

It is too early to pronounce judgment on that trait in respect to "Birch-brow" as her first calf was dropped in May, but she has every indication of keeping up with the rest of the herd, her mother "Nelly" holding out better than any cow in the herd. I think "Nelly" will average 10 qts. per diem, the year round.

Her calf "Birch-Boy," by Ben, dropped Nov. 28th, 1880, together with "Black-Birch" whose dam "Viola" is one of the best milkers in one of the best of herds in Rhode Island, viz., Judge Bradleys', whence these animals all came, I expect in the future will do good service in improving the dairy stock of this county.

Respectfully submitted,

THOMAS SANDERS,

per G. V. Ladd.

HEIFERS—FIRST CLASS.

Committee on Heifers, First class, have attended to their duty and report as follows :—

AYRSHIRES.

J. D. W. French, Esq., North Andover. Two heifers under four years old in milk.

"Jenny Douglas," 1st premium, $12. "Modesty 4th," 2d premium, $6.

Two yearlings, "Modesty 5th", 1st premium, $6. "Ruby Hebron 6th," 2d premium, $5.

One calf, "Roxanna 6th", 1st premium, $5.

Mr. French's statement appended is very full, and was quite gratifying to the committee. Exact information on all these subjects is what is sought for.

Mr. French has evidently never forced his thorough-breds, for a milk record, but kept them in good breeding condition, and at the same time gets a fair milk record. There is no guess work in regard to Mr. French's record. He has the milk weighed carefully night and morning every day, and the record from his herd has averaged for the last six years 2600 qts. of milk per cow. This is certainly a good average. Mr. French has bred his own herd. His method is to select the best cows as breeders, and with a careful selection of the bull, he hardly ever fails of having good milkers. Feeding, however, is an important element with him. He keeps a young animal growing from birth to maturity. From such breeding he has the satisfaction of having a home-bred herd—good mothers, hardy, and not liable to disease.

JERSEYS.

Richard Newell of West Newbury. "Lady Gerrish," 1st premium, $5. "Lady Merch," 2d premium, $3.

Mr. Newell's stock comes from two imported cows. "Ethel Gray", No. 8623, and "Queen", No. 8624, and bull "Gray Earl," No. 4318, in the A. M. Jersey C. C. herd book.

This stock is probably as fine as can be found in the state. His cows do not give a great quantity of milk, but it is very rich. The average is about seven qts. per day, through the year, but six qts. of milk makes a pound of butter by actual weight.

Amos Ridley of Georgetown. Two year old heifer, 1st premium, $6.

SHORT HORNS.

C. S. Bradley, West Newbury. "Evangeline 2d", 1st premium, $6. "Flora Graneck", 2d premium, $5.

HEIFER CALVES.

"Imperial Rose 5th", 1st premium, $4. "Imperial Rose 2d", 2d premium, $3.

The above were the only Short Horns offered. But were fine specimens. Showed careful breeding, and were well worthy the premiums given.

HOLSTEINS.

Wm. A. Russsell, Lawrence. Four year old "Lady Bess", 1st premium, $12; "Siresa," 2d premium, $6.

One year old. "Grace Andover", 1st premium, $6. "Fannie Noble", 2d premium, $3.

CALVES.

"Emma Clay", 1st premium, $5. "Clara Clinton", 2d premium, $3.

The Committee again had to award the well deserved premiums upon a single herd. Their only difficulty being, to select, when all were so fine single specimens that were more deserving than others.

Mr. Russell's stock was accompanied with a very full statement.

The Holsteins are very large, and must consume a great amount of feed, but they are great milkers, and in these days of silos and cheap feed, may be the coming cow for the farmers of Essex Co.

Ben : Perley Poore, West Newbury, entered some Heifers for exhibition only. They were White Short Horns. Bred at Indian Hill farm since 1830, by Benjamin Poore and his son Ben : Perley Poore.

They are of the milking strain of Short Horns, have a yellow skin, and give large quantities of milk, when liberally fed. The milk is not so rich as that given by some other breeds and is not consequently so well adapted to butter making, but it is claimed that no other breed will give so much milk on the same feed.

The Heifer exhibited by Major Poore, possessed the Short Horn points and was remarkably large of her age. The calves of this breed are of course large and valuable, and the cows when old take fat on easily, and make good beef.

John L. Shorey, John L. Colcord, George Buchan.—*Committee.*

STATEMENT OF J. D. W. FRENCH.

I enter my Ayrshire heifers, "Jennie Douglas" and "Modesty 4th" for premiums, for best heifers under 4 yrs. old in milk.

Pedigrees.—"Jennie Douglas," 5455, A. R. Dropped 15th Sept., 1878. Dam, "Lillie Douglas", 549, A. R. Sire, "Fitz James", 550, A. R. Dropped first calf 27th Feb., 1881. "Modesty" 4th, 5452, A. R. Dropped 15 Nov., 1878. Dam, "Modesty," 3692, imp. A. R. Sire, "Garibaldi," 1614, imp. A. R. Dropped first calf 8 March, 1881. For premium for Heifer calves, thorough-bred Ayrshire, I enter my calf, "Roxanna 6th".

Pedigree. "Roxanna" 6th. Dropped 23d June, 1881.

Dam, "Roxanna," 1816, A. R. Sire, "Moncrieff," 2516, A. R.

For premium for 1 year old heifers, Ayrshires that have never calved, I enter my Ayrshire heifers, "Modesty 5th", and "Ruby Hebron."

Pedigree. "Modesty" 5th., 5453, A. R. Dropped 9th Nov., 1879. Dam, "Modesty", 3692, imp., A. R. Sire, "Andover," 1549. " Ruby Hebron", 5080, A. R. Dropped 10th March, 1880. Dam, "Rosa", 3143, A. R. Sire, " Hebron", 2083, A. R.

STATEMENT OF WM. A. RUSSELL.

I enter for your consideration, Holsteins under 4 yrs. old in milk. "Lady Bess", 2 yrs. old. "Siresa", 2 yrs. old.

"Lady Bess", calved May 7, 1881, is due June 1st., 1882. For the first 10 days in June, she averaged 30 lbs. of milk per day. And for the first 10 days in Sept. she averaged 20 lbs. per day.

" Siresa," calved Aug. 28, 1881; for the first 10 days in Sept. she averaged 28 lbs. of milk per day.

They go out to pasture and have green corn fodder, and 2 qts. of grain per day.

HEIFERS—SECOND CLASS.

The Committee award as follows :—

To Lawrence H. Bailey of West Newbury, for Milch Heifer, 1st premium, $12.

G. W. Duncan, Haverhill, 2d premium, $6.

J. H. Davis, No. Andover, heifer that has not calved, 1st premium, $6.

Amos Ridley, Georgetown, 2d premium, $4.

Albert Titcomb, F. P. Putnam, John Q. Evans, J. N. Rolfe. —*Committee.*

STATEMENT OF WM. A. RUSSELL.

I enter for your consideration two Grade Holstein Heifers, "Fancy" and "Nelly." "Fancy" is one-half Holstein, one-quarter Jersey, and one-quarter Durham; is 2 yrs. and 10 mos. old. Dropped her first calf Nov. 10, 1880; is due Jan. 29, 1882. She has given from Jan. 1 to Sept. 1, 5359 lbs. milk, in 242 days, an average of 22 lbs. per day.

"Nelly" is three-quarters Holstein and one-quarter Durham; 2 yrs. and 10 mos. old. Dropped her first calf April 26, 1881; is due Nov. 14, 1882. In 31 days in May she gave 1018 lbs. milk, an average of 32 3-4 lbs. per day; and in 16 days in September she gave 294 lbs., an average of 19 5-8 lbs. per day.

Their feed in winter was 4 qts. shorts and 2 qts. meal, dry hay, corn fodder, and a few roots. In summer, pasture and 2 qts. meal, and green corn fodder twice a day.

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers submit the following report, awarding premiums as follows:—

WORKING OXEN.

1st Premium to T. G. Ordway, West Newbury, $12.
2d Premium to James Reynolds, No. Andover, $10.
3d Premium to B. H. Farnum, No. Andover, $8.

WORKING STEERS.

1st Premium to Town of No. Andover, $10.
2d Premium, C. J. Peabody, Topsfield, $6.

There were six pairs of oxen that competed for the premiums. All of them worked well. We would mention a pair of cattle belonging to Wm. A. Russell, of No. Andover; well matched, good working cattle, weighing 3700 lbs.; driven by his foreman, Mr. Poor. Also, a pair of three-year old Dutch

bulls, the work of which compared well with the ox-teams. They were on exhibition only. Mr. Poor takes pride in his teams, which the training shows.

Major Ben: Perley Poore of West Newbury, exhibited a pair of short horn white Durham cattle, which he invited us to examine. They were nicely matched, good shaped cattle, seven years old, weighing 4000 lbs. We understood from his farm man that they had been fed on nothing but hay and grass. Such cattle are seldom seen without extra feed. We cannot judge of their work, as they were not taken from the pens. This stock has been bred on the well known Indian Hill farm, for many years.

Major Poore's father imported the original animals.

Edw. Kent, John A. Hoyt, D. Bradstreet.—*Committee.*

TOWN TEAMS.

The Committee on Town Teams respectfully report:

There were three entries, one of horses and two of oxen; one team of oxen did not put in appearance.

We award the team of nineteen pairs of horses of North Andover the first premium of $30.

We award the team of nineteen pairs of oxen and steers of No. Andover the first premium of $30.

A. B. Fellows, H. B. Abbott, S. Longfellow.—*Committee.*

STEERS.

The Committee on Steers respectfully submit the following report:

Of three year old steers there was but one entry, by B. W. & J. R. Farnum, of North Andover. These steers, although not remarkable for their size, were of good shape and well

broken to the yoke, and the Committee award them the first premium of $8.

There was a good exhibition of two year old steers,—five entries. Ben: Perley Poore, of West Newbury, entered a fine pair of large Durhams "for exhibition only," for which the Committee would have gladly given a premium, had they been entered for that purpose. It is often said by common farmers that it is of no use for them to take their stock to the Show, as the "fancy" farmers with their blooded stock are sure to take all the premiums; but this remark cannot apply to Mr. Poore, who generously contributes to the success of the Fair with the request that no premiums be given to his stock. Besides these steers he had several other animals on exhibition, which were a credit to the Society as well as to their owner. These animals were all of large size and in color nearly white, and reminded us of the first Cattle Show we attended when a boy, for to us one of the greatest wonders of that show was a monstrous white animal from "Indian Hill" farm, probably the ancestor of the cattle on exhibition from the same farm this year. Moses T. Stevens, of North Andover, exhibited a pair of two year olds, weighing 2450 pounds. These steers were twins, well matched and broken to the yoke, and the Committee unanimously award them the first premium of $6. The second premium of $5 we award to Byron K. Farnum, of North Andover for a pair of twin steers, which were perfectly handy either with or without the yoke. A pair of steers were shown by James Davis of East Haverhill, and we regret that there were no more premiums at our disposal, for it is seldom that so fine a pair of steers are exhibited at our Fairs without receiving a premium. These steers were also twins and weighed 1950 pounds, and in the judgment of the Committee there was but *slight* difference between them and the pair which received the second premium. We also noticed a pair of two year olds exhibited by E. F. Austin and labelled Devons. Possibly some of their remote ancestors belonged to the Devon breed, but had they not been labelled, the Com-

mittee would never have suspected the fact, for we could not trace the least resemblance to the pure Devon. They were, however, a likely pair.

There were three entries of yearlings. We award the first premium of $5 to S. & N. Longfellow, of Groveland, for a handsome pair of steers, which were so large that many persons doubted their age, and the Committee themselves were not satisfied until they examined them and found that they had not yet shed their calf teeth, which is proof that they have not seen two years. We award the second premium of $4 to J. Ralph Farnum, of North Andover, for a pair of Hereford Steers. A pair of yearlings, entered by B. W. Farnum, of North Andover, although not quite as large as those which received the premiums, showed excellent training, as they led the North Andover town team around the Fair grounds.

Of Calves there was but one entry, by R. S. Bray, of Newbury, and the Committee consider them deserving of the first premium of $4.

On the whole we consider the exhibition of steers a very creditable one, for taking into consideration the fact that there are now but few oxen used upon the farms of the county, it cannot be supposed that farmers will pay much attention to the raising and training of steers. Probably there are not a tenth part of the number of oxen upon the farms of Essex County to-day that were here a half century ago. Just fifty years ago, when the society was in its infancy, it held its fair in the town of Andover. No premiums were then offered for Town Teams, yet the farmers of that town, wishing to help out the "Cattle Show," exhibited a team of three hundred working oxen. Now a town team, even with the liberal premiums offered, scarcely exceeds a tenth part of that number and two of the members of this committee made the remark, that there was not a single yoke of oxen in the towns from which they came. Recently we saw it stated in an agricultural paper that the introduction of the mowing machine and the swivel plow was among the causes of the ox having to

give place to the horse, the editor evidently sharing the prevalent notion that the near ox cannot be taught to walk in the furrow as well as the off one. This idea is, however, an erroneous one, for cattle that will plow without a driver with a landside plow can be taught in less than a half hour to go equally well with a swivel plow, and when the near ox has once learned that it is his place to keep in the furrow in going one way of the field, he is usually surer to keep in his place than the off one would be, as it is more natural for the off ox to go where the near one leads. When the mowing machines were first used upon our farms they were clumsy affairs compared with the improved machines of the present day, and it often required the full strength of two horses to operate them, and many small farmers, who before kept but one horse, found that they were obliged to procure an extra horse in order to do their mowing by machinery ; and as the farm was not large enough to keep the extra horse and the oxen, the latter had to give place to the former. Unquestionably on many farms the work can be more economically done with a team of horses than by oxen. But if the farm is large enough to need more team than a pair of horses, we should advise the keeping of oxen, for there are many kinds of work on most farms that can be done cheaper and better with oxen than with horses. And is it not a fact that since we have kept less oxen many of us have got in the habit of shunning the rough places upon the farm. There is no animal whose strength has done so much to improve the aspect of the farms of this county as the patient ox. He has helped to make smooth many rough and stony fields, and there are yet many more places where his labor is needed, and we think it is well for this society to encourage the raising and training of this useful animal as well as to encourage the raising of horses ; for the steers that are raised upon the farm generally remain there for a time to do their part towards improving that farm, and thus improve the agriculture of the county, thereby promoting the cause of this society, while in the majority of

cases the colts which receive the premiums are never used upon the farm. True, the raising of steers cannot be very profitable in Essex county ; our pastures are too poor and our hay finds too good a market, yet there are many farms in the county, at some distance from the cities, where the farmer must feed out all his fodder in order to keep up the fertility of his land, upon which a pair of steers for the boys to train can be raised to the age of oxen without the farmer feeling the expense as much as he would to purchase a pair of full grown cattle. The training of these steers will make excellent recreation for the boys, and tend to make them contented upon the farm. We have heard of an instance where a father gave a boy a pair of steer calves to raise who sold them when four years old for $300. This is, of course, more than can often be realized ; but that good cattle *can* be raised even in Essex county is proved by the steers on exhibition by Mr. Poore, which never have been fed with anything but grass and hay. Unless, however, one has an extra breed of cattle, we think the farmer would do better to select good yearlings from the State of Maine than to raise the calves, for in this county a calf six weeks old will usually bring nearly enough to buy a yearling, and a majority of the farmers here can buy better yearling steers than they can raise, for in this county we breed too much for milking qualities to get good steers.

D. A. Carleton, Benjamin Titcomb, John M. Danforth, Rufus Kimball.—*Committee*.

STALLIONS.

The Committee on Stallions would report that they have attended to the duty assigned them. Five horses were presented to the Committee for premium. After a very careful and thorough examination of the horses in harness, the Committee were unanimous in the opinion that no one of the horses

presented was worthy of the endorsement of the Essex Agricultural Society as a stock horse.

Mr. Huse of Manchester, N. H., presented for exhibition his horse, "Almont Eclipse," which in the opinion of the Committee was a very fine specimen of a stock horse.

Wm. Cogswell, M. C. Andrews, J. Otis Winkley, Thomas Saunders.— *Committee.*

BROOD MARES.

The Committee on Brood Mares found fourteen entries; some of them were very old and past their usefulness, and some of them were very inferior animals, but all had very good colts by their side.

We award the first premium to Thomas Sanders of Haverhill for his Bay mare "Dolly," $15.

The second premium to Peter Holt, jr., of North Andover, $10.

The third premium to J. B. Nichols, of East Haverhill, $8.

C. H. Gould, O. S. Butler, W. P. Bailey, D. A. Pettingill. — *Committee.*

FAMILY HORSES.

The Committee report:—

1st premium of $15, to B. H. Farnum, of No. Andover.

2nd premium of $10, to Thos. Sanders, of Haverhill.

3rd premium of $8, to Thos. R. Osborn, of West Newbury.

Henry L. Tenney, Chas. Perley, Joseph Whitehead, M. A. Plummer.— *Committee.*

FARM AND DRAFT HORSES.

The Committee report that eight horses were entered for premium, and all performed the work well.

There were horses weighing 1200 lbs., and also those weighing from 150 to 175 lbs. less.

All these horses were used on farms. The horse that received the first premium, weighed only 1050 lbs.

We award to A. D. Ordway, of Newburyport, the first premium of $15. J. H. Butters, of Methuen, second premium of $12. Aaron Low, of Essex, third premium of $10. T. O. Wardwell, of No. Andover, fourth premium of $6.

The horses all pulled well, but were deficient in backing.

E. S. Parker, J. M. Bailey, Wm. P. Richards.—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee award as follows :—

To Edward P. Perley, of Danvers, first premium of $15. Edward Adams of No. Andover, second premium of $10. Oliver Stevens, of No. Andover, third premium of $5.

Nath'l Dole, Edward Harrington, J. A. Ilsley.—*Committee.*

COLTS—FIRST CLASS.

The Committee on Colts of the First Class have awarded the premiums as follows :—

For 4 years old, Goodwin Bros., of Lawrence, first premium of $12. W. J. Dale, of No. Andover, second premium of $8. Peter Holt, Jr., of No. Andover, third premium of $5.

For 3 years old, A. P. Johnson, of Bradford, first premium of $10. D. G. Todd, of Rowley, second premium of $5.

G. A. Tapley, *Chairman.*

COLTS—SECOND CLASS.

The Committee on Colts, second class, have attended to their duties and report as follows:—

Two years old, Thomas Sanders, Haverhill, first premium, $8; Albert C. Heath, Haverhill, second premium, $5.

One year old, Romulus Jaques, West Newbury, first premium, $6; Albert C. Heath, Haverhill, second premium, $4.

S. M. Titcomb, D. D. Flanders.—*Committee.*

SWINE—FIRST CLASS.

The Committee award as follows:—

Danvers Hospital, for Boar, first premium, $10; Eben Sutton, No. Andover, second premium, 6.

Danvers Hospital, for Breeding Sow, first premium, $10; Rufus Goodwin, Haverhill, second premium, $6.

C. C. Blunt, H. C. Harnden, N. S. Harris.—*Committee.*

SWINE—SECOND CLASS.

The Committee report:

To Alfred M. Trask, Danvers, for Boar, first premium, $10; Charles H. Poor, Bradford, second premium, $6.

Alfred M. Trask, Danvers, for Breeding Sow and Pigs, first premium, $10; Chas. H. Poor, Bradford, second premium, $6.

F. St. C. Herrick, *Chairman.*

POULTRY—FIRST CLASS.

The Committee award as follows:

To George K. Hale, Haverhill, one Turkey, gratuity, $2.

E. F. Webster, Haverhill, Trio Bronze Turkeys, first premium, $2.

E. F. Webster, Haverhill, Pekin Ducks, first premium, $2.
" " " B. Cochin Fowls, " " $3.
" " " " " Chicks, " " $2.
J. Henry Hill, Amesbury, Partridge Cochins, first premium, $3.
Geo. G. Pierce, W. Newbury, Pekin Ducks, second premium, $1.
Geo. G. Pierce, W. Newbury, China Geese, first premium, $2.
" " " " Muscovy Ducks, gratuity, $1.
" " " " Bremen Geese, first premium, $2.
W. M. Ward, Peabody, L. B. Fowls, first premium, $3.
" " " L. B. Chicks, second premium, $1.
Amos D. True, Salisbury, L. B. Fowls, second premium, $1.
C. O. Putnam, Danvers, L. B. Chicks, first premium, $2.
Geo. Lunt, Georgetown, L. B. Fowls, gratuity, $1.
Story & Caswell, Beverly, B. Chicks, gratuity $2.
H. C. Fegan, Groveland, Langshans, gratuity, $2.
J. B. P. Ladd, Groveland, D. B. Chicks, first premium, $2.
Geo. G. Pierce, W. Newbury, Collection, Diploma.
Mary Bolger, Lawrence, Geese, gratuity, $1.
Geo. G. Pierce, W. Newbury, Pigeons, gratuity, $2.

JAMES O. PARKER, *Chairman.*

POULTRY—SECOND CLASS.

The Committee award as follows:—
To J. B. P. Ladd, Groveland, Houdan Chicks, first premium, $2.
L. B. Parker, Groveland, B. R. Game Fowls, first premium, $2.
L. B. Parker, Groveland, B. R. Game Chicks, first premium, $2.
E. E. Ferguson, Topsfield, B. L. Chicks, first premium, $2.
H. C. Fegan, Groveland, Silkie's, first premium, $2.
H. C. Fegan, Groveland, Langshans, Gratuity, $2.

H. C. Fegan, Groveland, Game B. Chicks, first premium, $2.

H. C. Fegan, Groveland, Game B. Fowls, second premium, $1.

W. M. Ward, Peabody, G. B. Fowls, first premium, $2.

W. M. Ward, Peabody, G. B. Chicks, second premium, $1.

F. W. Blake, Haverhill, G. B. Chicks, Gratuity, 50 cts.

Geo. S. Smith, Haverhill, P. Rock Fowls, first premium, $2.

Geo. S. Smith, Haverhill, P. Rock Chicks, first premium, $2.

JOHN SWINERTON, *Chairman.*

PLOUGHING—DOUBLE TEAMS.

The Committee on ploughing with Double Teams respectfully submit the following :—

There were four competitors for the premiums on the grounds, viz. :—

Joseph Goodrich of West Newbury to whom is awarded the first premium of $12.

To town of No. Andover and Chas. A. Butterfield, second premium, $10.

To B. H. Farnum, No. Andover, third premium, $9.

To Theron Johnson and Eben Sutton, No. Andover, fourth premium, $8.

To comment on the several efforts—Land taking first premium was as fine an exhibition of ploughing in the open work as was ever seen, still it was not perfect. Its commencements were not good ; the team should have been checked so that the plough could have gotten to work sooner and prevented that one opportunity for a Jaques or some other expert to snatch the premium.

Land taking second premium was excellently ploughed, and only failed in not quite closing the furrow, which we attribute to the plough or its adjustment.

Land taking third premium was of a quality not favorable

for good work, but the evidences of skill manifested, under other conditions, might have secured the highest award.

Land taking fourth premium, ploughing good generally—plough not adapted to its work— "buried" itself too deep—a deep dead furrow unavoidable.

To the ploughman there are certain things essential to good ploughing, which is, taking the soil up and turning it over in such a manner as to leave a level or smooth surface. To effect this, in striking out a "land" the first furrow in turning should be of less depth than the general work, it turning over the ridge more readily, and the ridge being modified thereby, (the off ox travelling on the sward facilitates this), and gradually gaining the proper depth after one or two furrows. Again, in finishing, the last furrow should be of less depth, for it relieves that most unsightly thing in ploughing—a deep, dead furrow.

To secure good ploughing a trained driver is indispensable and much harder to be obtained than a good ploughman, for while the latter has to select his plough with reference to the work and set or guage it, the lesson to guide the same is comparatively short, Not so with the driver; he has to deal with the impulses and caprices of animated nature and must have natural aptitude or inherited qualities for the business; in short he must be raised from "the seed," no improvising or grafting a good teamster on foreign stock; he must have been a "steer-boy" to skilfully manipulate the ox-goad, which for fineness of work is second only to the fiddle-bow in the hand of an expert or an Ole Bull. He must have a voice that gives no uncertain sound; he must be alert and watchful,—constant attention is imposed upon him; eternal vigilance is the price of good ploughing and the premium.

There was much interest manifested in the work. "Speed the Plough" is the song of all classes, alike of those who labor and those who do not, for by the plough their bread is assured, and speeding improvement in ploughs and ploughing brings immediate benefit to the farmer, and ultimate good to all. NATHANIEL LITTLE, JR., *Chairman.*

PLOUGHING—SINGLE TEAMS.

The Committee on Ploughing with single teams report that there was but one entry for premiums under this class—the team of Thomas G. Ordway, of West Newbury.

The Committee award the first premium of $10 to Thomas G. Ordway, of West Newbury.

The Committee were requested to examine the work of the Casady Sulky plow, shown by Whittemore Bros., Boston, and the Sulky attachment of the Wiard plow. Both these plows performed good work, but as no premium was offered, the Committee do not attempt to decide upon the relative merits of the two machines. On smooth land they would undoubtedly do good work, but whether they are practicable for use on our rough New England farms is a matter which the Committee are not prepared to decide.

Joseph S. Howe, S. A. Merrill, Wm. F. Goodrich, S. F. Newman, Royal Day.—*Committee.*

PLOUGHING WITH TWO HORSES.

The Committee on ploughing with horses report that eleven teams were entered, and seven appeared on the ground and competed for the premiums.

The surface of the land was somewhat uneven and some of the lots were rocky, making it more difficult to determine the comparative merit of the work done, than it would have been on an even field.

By a vote of the Society this year, each ploughman was required to strike out his land, thereby making a severer test of his skill than under his old custom by which the lands were cut out prior to the exhibition.

The work generally was well done, that of Messrs. Putnam and Bray was excellent.

The Committee, after making all due allowances for the differences in the land, award the premiums as follows:—

The first premium of $12 to Ansel W. Putnam, of Danvers. Plough, "Syracuse Chilled."

The second premium of $10 to R. S. Bray, of Newbury. Plough, "Eagle."

The third premium of $8 to Asa T. Newhall, of Newburyport. Plough, "Cameron."

The fourth premium of $6 to Moses H. Poor, of West Newbury. Plough, "Hussy."

The fifth premium of $4 to Charles N. Maguire, of West Newbury.

GEO. L. HAWKES, *for the Committee.*

PLOUGHING WITH THREE OR MORE HORSES.

The Committee on ploughing with three or more horses, having attended to the duty assigned them, report that there was but one entry, that being a Four Horse team by Jeremiah Cashman, of Newburyport, and in their estimation the quality of the work done was such that they were not justified in awarding the premium offered in this class, but would recommend to the consideration of the officers that he be awarded a gratuity of $5.

A. T. Newhall, Geo. A. Butters—*for the Committee.*

PLOUGHING WITH SWIVEL PLOUGH.

The Committee award to :—

Edward F. Perley, of Danvers, two horses, first premium, $10.

O. Stevens, No. Andover, two horses, second premium, $6.

Charles Heselton, Bradford, four oxen, first premium, $12.

Wm. A. Russell, Lawrence, two oxen and two horses, second premium, $10.

David Smith, George Clark, David A. Pettengill, John P. Foster.—*Committee.*

AGRICULTURAL IMPLEMENTS.

In behalf of the Committee on Agricultural Implements, I would report that, besides the Chairman, Messrs. Aaron Low of Essex and E. G. Dole of Salisbury were present, and passed the time from 2 to 6 P. M., on Tuesday, and from 10 to 1 on Wednesday, attending to their duties, and immediately thereafter handed in a list of their awards. The show in this department was very good, and contained samples of implements which are in popular use, and also of those being brought forward as novelties to-day.

We regretted very much not to have been able to find on exhibition the "fruit evaporator," which was entered by Henry Morrill, of West Newbury. We think that it would have attracted much interest had it been made a prominent feature. Nor could we find the "apple parer" entered by Frank E. Bartlett, of Merrimac.

The manure spreader, shown in Hanscomb Bros.', of Haverhill, exhibit, was decidedly a feature, and on the second day was shown in operation, but as its attendant did not wait for the Committee, as was agreed the previous day, we cannot speak of its work there, but are convinced that it is a valuable assistant on a large farm, or when owned jointly by several farmers.

The ensilage cutter of Whittemore Bros. seemed to highly commend itself.

Some good horse rakes, among them the "Tiger" and "Yankee," were well worthy the attention of farmers.

Mowing machines of the various kinds, most in use about here, were shown; all good, but undoubtedly some men could

handle certain machines better than others, and it is fortunate there is a good variety of good ones to choose from. Certain ones are also better suited to some localities than others.

Warrior and Victor mowers were shown by S. J. Pedler of Methuen and C. H. Fellows & Co. of Haverhill, respectively. The former exhibitor had, besides the mower, a solid collar axle fitted to Archibald wheel, for which he claims superiority.

An iron flexible harrow, with teeth of different kinds on either side was shown by Hanscomb Bros. of Haverhill. This does excellent work and is also used much in England. It should be handled thoughtfully to prevent its getting tangled, but a little care only is necessary.

The Continental horse hoe in the collection of Albert C. Hill, of Amesbury, seemed a very practicable implement, with a hiller attachment, if not too heavy from being made wholly of iron, but perhaps any such weight might keep it steadier and hold it more firmly to its work.

The "Acme" harrow, exhibited by James T. Johnson, of No. Andover, is a new thing and is worthy of a careful examination by the farmers.

A Sulky plow was shown by Whittemore Bros., which is best used with three horses abreast, is adjusted readily by the driver from his seat and can do good work.

Mr. George G. Creamer. of Hamilton, had a Sulky attachment, which is said to fit any plough and also can do good work. The former, from its higher cost would not be so near the reach of most farmers, but might be owned by some individual to let out its work to farmers.

Ruhlman's wheel hand hoe was shown by A. E. Low, of Essex, and appeared of a useful design.

As to the ploughs we can only say, from what we saw of them at work in the field, that the variety of work they could do was well done by them at the hands of the ploughmen, and would advise those who are in need of a new plough to decide in advance as to their needs and visit the ploughing matches at our Fairs to decide which plough can do their work best.

By walking along the headlands during the ploughing match you are able to see the kind of work accomplished; take the name of the plough, and inquire more into details as soon as the match is completed. None but the judges are permitted on the "lands" until after the end of the competition. This is an important and admirable feature of our Fairs.

The awards are as follows:—

Hanscom & Bros., Haverhill, collection, first premium, $15.

A. E. Hill, Merrimac, collection, second premium, $12.

C. H. Fellows, Haverhill, collection, third premium, $10.

Whittemore Bros., Boston, Ensilage Cutter, gratuity, $5.

S. Frank Ayers, Boxford, Ox Yoke, gratuity, $3.

Geo. G. Creamer, Hamilton, Plough Attachment, gratuity, $5.

J. T. Johnson, No. Andover, Harrow, &c., gratuity, $5.

J. T. Johnson, No. Andover, Manure Spreader, gratuity, $5.

A. E. Low, Essex, Small Weeder, gratuity, $2.

S. G. Pedler, Methuen, Warrior Mower, gratuity, $3.

Respectfully submitted,

FRANCIS H. APPLETON, *Chairman.*

CARRIAGES.

The Committee on Carriages report only one entry of carriages and one entry of Wheel and Axle, for which they have awarded to Elmer P. Sargent, of Merrimac, Diploma and $15 for a two-wheeled chaise and to S. J. Pedler, of Methuen, $5, for Wheel and Axle. Respectfully submitted,

Albert Sargent, David W. Low, Aaron Sawyer.—*Committee.*

DAIRY.

The Committee on Dairy submit the following report:—

There were but five specimens of Butter presented for premium, none of Cheese. They award the premiums as follows:

First premium, $10, to Mrs. B. H. Farnham, of N. Andover. Second Premium, $8, to John J. Downing, of Andover. Third premium, $6, to Abbie S. Green, of Salisbury. Fourth premium, $4, to Mrs. F. Stiles, of Middleton.

For greatest produce of milk for one year, from not less than four cows :—

To Charles J. Peabody, of Topsfield, premium, $25.

John A. Putnam, A. W. Putnam, Frank Marsh, Warren Ordway.— *Committee.*

STATEMENT OF MRS. B. H. FARNHAM.

I present for your inspection sixteen pounds of September butter made from the milk of Jersey and Grade cows. The milk is set in tin pans and the cream taken off when the milk has soured. When churned, work out the buttermilk with hands, and salt to taste. The next morning work again and weigh into pound balls, and square with boards.

STATEMENT OF J. J. DOWNING.

The five pounds of Butter entered for premium were made in the following manner :—Cream raised by the Cooley system, churned every other day in a Davis oscillating churn, time from forty-five minutes to one hour. Butter washed in churn until most of the buttermilk is removed, then taken out and balance worked out. In salting use from one-half to one ounce, according to taste of customers; delivered twice per week summer and winter. Number of cows in milk, sixteen Jerseys and Grades ; feed at present, grass and Indian meal from two quarts to one peck per cow.

STATEMENT OF MRS. ALFRED GREEN.

I present five pounds of September butter made from two grade Jersey cows. Milk set in tin pans and allowed to stand from twenty-four to forty-eight hours ; stir in the cream at

each skimming; when churned, worked and salted to taste and allowed to stand twenty-four hours before a second working and making into balls.

STATEMENT OF MRS. FARNHAM STILES.

I present five pounds of September butter, made from the milk of Jersey cows. The milk is strained into tin pans and after standing a sufficient time is then skimmed, and is kept in a stone jar and stirred every day, being sweet at time of churning. The butter is then washed with cold water, and salted with one ounce to the pound; after standing 24 hours it is made into lumps. In order to make *good* butter everything that comes in contact with milk, cream or butter, must be kept perfectly clean and sweet.

STATEMENT OF CHARLES J. PEABODY.

To the Committee on Dairy:

GENTLEMEN:—I make an entry under Section 3 of your department,—for the greatest production of milk on any farm, etc.

My record is from April 1, 1880, to April 1, 1881, as has in previous years been the rule of the society; this year I found by the arrangements as set forth in the book, the date is changed to Apr. 1, 1882, but as I had kept the account with reference to this entry, I submit it to your consideration.

My herd consists of six cows, three are Jersey grades, two Ayrshire, one Native—calved as follows:—

No. 1, Nov. 4, '80; dry nine weeks.
No. 2, Apr. 3, '80; was in milk 9½ months of the year.
No. 3, June, '80; dry two months previous.
No. 4, Sept. 2, '80; dry three months.
No. 5, Feb. 4, '81; dry ten weeks.
No. 6, Last calved July 18, '79; was in milk the whole year.

The manner of keeping is that common with farmers in this section of the county, consisting of good pasturing in

summer, with corn fodder in August and September. In October they go into the fields and come to winter feed sometime in November. This consists of English and Meadow hay with one feed of cornstalks cut and wet daily, with 2 quarts of cotton seed meal and 2 to 4 quarts of cob meal to each cow; by several trials I find that from 18 to 22 lbs. of hay and stalks, with the quantity of grain mentioned, are required to keep up the flow of milk and the condition of the herd. I water twice daily. The milk is sold at the door. No exchange made in herd for the year. I give the quantity of milk in monthly amounts; it is measured every day and each day's record set down. Amount of milk for

April,	1205 qts.	Oct.,	1240 qts.
May,	1195 "	Nov.,	1050 "
June,	1250 "	Dec.,	1300 "
July,	1275 "	Jan.,	1262 "
Aug.,	1150 "	Feb.,	1176 "
Sept.,	1200 "	March,	1395 "

Total, 14,698 qts. or 2449 2-3 qts. for each cow.

I try to make a uniform amount of milk the year round, and have succeeded in this better the past year than ever before. As to expense of feed, I estimate the cost of pasturing at $10 per cow; corn fodder and fall feed, $5, making $15 for the summer cost. English hay at $20, Meadow at $12, and corn stalks at $12 per ton; grain market price, making from $35 to $40 as expense of winter feed, or $50 to $55 for the year. The milk was sold at 3 cts. per quart, amounting to $73.49 per cow—excess over cost of keeping, $18.49.

SHEEP.

The Committee on Sheep submit the following report:

There were four entries for premiums: one flock of Sheep and one flock of Lambs by Charles Perley, of Boxford; one

flock of Lambs and one Buck by Eben Sutton, of North Andover.

Mr. Sutton also had on exhibition four fine Sheep, all full blood Cotswold. In the opinion of a majority of the Committee, Mr. Perley's smaller breed of sheep are better adapted to the wants of the farmers of Essex County than are the Cotswold, Mr. Corliss dissenting, and we award the following premiums:—

For the best Flock of Sheep, the first premium of $10 to Charles Perley, of Boxford.

For the best Flock of Lambs, the first premium of $5 to Charles Perley, of Boxford.

For the best Buck, the first premium of $8 to Eben Sutton, of North Andover.

The Committee most earnestly urge the farmers of Essex County to keep more sheep. There is no stock kept on the farm that will pay as large a profit as a flock of good sheep, well managed; they yield a double profit; one on their lambs and wool, another by improving the pastures. There are hundreds of acres of pasture land in Essex County that are now nearly worthless from being overgrown with bushes, briers and weeds that can be improved by keeping sheep if the right course is pursued. We have seen it stated by writers in the Agricultural Journals that a pasture that will carry ten cows through the season will carry ten sheep in addition without detriment to either cows or pasture, as they will eat that which the cows refuse. This is a mistake, for sheep will not eat either bushes, briers or weeds, when they can get good sweet grass. The pasture to be improved should be stocked wholly with sheep; put on the number that it will carry through the season by close feeding, and no more, as the changing of pastures gets them into the habit of roaming and makes continual trouble. If the lambs come early as they should, they will be sold by the time the feed begins to fail, and then the sheep can be forced to eat the bushes, briers and weeds, and will thrive upon them; and by their continual

cropping for two or three years, the briers and weeds, if not the bushes, will be exterminated and the amount of good sweet grass will be increased so that the land will be more than doubled in value. It can then be given up to the cows and another piece can be served in like manner. They are especially beneficial to Apple orchards that cannot well be cultivated. The manure they drop is the best possible fertilizer for the tree, and they eat the immature fruit as fast as it drops, thus preventing the increase of the worms that do so much damage to the fruit. Mr. T. C. Thurlow, of West Newbury, a member of our Committee, states that he has an orchard that a few years ago was run down so that it produced but little fruit and that of a poor quality. He stocked it with sheep and it has now regained its thrifty condition and bears very large crops of excellent apples.

In saying good sheep, we do not mean high priced, thoroughbred sheep, but such sheep as can be bought in the markets; do not buy the refuse of droves that are too poor to kill, for such ones are dear at any price, but select young ones that are long bodied, broad on the back and full in the breast, and well covered with wool, that when the hand is placed on the back it will feel soft and thick. This characteristic is not so much valued for the extra amount of wool they will yield as it is for denoting hardihood and thrift. Such sheep are better feeders and will pass through cold storms without injury, when thin, coarse wooled ones will nearly perish. The profit of a flock depends wholly upon its management. They do not require as warm quarters as cattle, but in moderate weather they prefer and will do better in an open shed, if it is dry, than they will in a warm, close building. Many farmers think that they will live on coarse meadow hay, orts, or anything that the cattle reject, but there is not any profit in such feeding, for a poor sheep will bring a poor lamb and will give but little milk, and the lamb cannot be fatted in season to bring the highest price.

From the time they come to the barn until they drop their lambs they should have good early cut hay or rowen without

grain or roots. They should drop their lambs by the first of Febuary. After lambing they should be fed on grain. By the time the lambs are a month old they will begin to eat meal, if placed where they can have access to it, and should have all they will eat. With such treatment until the first of May (and that is as early as there is a market for them), they will dress from thirty to thirty-five lbs. each, and will usually bring twenty-five cents per lb., making $8 per head, and six sheep will usually bring eight lambs and produce six pounds of wool per head, that will sell for two shillings per pound, making an income of $76, and they can be kept as cheap as one cow. It is stated upon good authority that the cows in Essex County will not average over six quarts of milk per day, and will average but three cents per quart, yielding an income of $65.70 per year. It will be seen that the sheep are the most profitable without taking into account the improvement of the pasture or the extra labor required by the cow. This estimate is made for small flocks of not more than fifteen; larger flocks will not usually do as well, and no allowance is made for the risk of damage by dogs.

The ravages of dogs is the principal cause of so few sheep being kept, but that cause should not and need not exist if the farmers of the State would unite in demanding of the Legislature an amendment of the Dog Law that would give us a reasonable protection. With the existing law it often costs as much to recover damage as the amount we receive. If the damage occur in January we have to wait a year before we can recover, and then if the amount of the Dog Tax in the Treasury is not enough to pay the entire damage we have to accept a percentage, and if a sheep is killed and the carcass is not found, as is often the case, we receive nothing. If the law was so amended that we should receive the full amount of actual damage on its occurrence, the farms in the back towns would soon be stocked with sheep to the benefit of the owners and the Agricultural interest.

Albert Berry, Chas. Corliss, N. W. Moody, T. C. Thurlow.—*Committee.*

BREAD, HONEY, AND CANNED FRUIT.

The Committee award as follows :—

Mrs. C. A. Alley, Wenham, Bread, first premium,	$3.00
Mrs. R. K. Parker, Groveland, Bread, second premium,	2.00
Maggie McNeice, Haverhill, Bread, third premium,	1.00
Annie McLaughlin, Haverhill, Bread, gratuity,	.50
Lizzie McLaughlin, " " "	.50
Mrs. H. E. Wales, Bradford, Bread, copy, "Birds of N. E."	
Bertha B. Bradley, Haverhill, Bread, gratuity,	1.00
Annie A. Hougan, Bradford, " "	.50
Sarah L. Bradley, Haverhill, " "	1.00
Mrs. T. W. Sargent, " " "	.50
Susie Willey, " " "	1.00
John Downer, Haverhill, Collection of Bread and Cake, gratuity,	1.00
Henry Alley, Wenham, Honey, &c., first premium,	5.00
Mrs. J. W. Littlefield, Haverhill, Canned Fruits, first premium,	2.00
Lucy A. Mason, Beverly, Canned Fruits, second premium,	2.00
Mrs. J. Henry Hill, Amesbury, Canned Fruits, gratuity,	1.00
Mrs. Jeremiah Fuller, Middleton, Pickles, premium,	2.00

A. E. Goodwin, Mrs. N. E. Ladd, Mrs. Charles Perley, Mrs. M. E. Fuller.—*Committee.*

STATEMENT OF MRS. C. A. ALLEY.

The bread I exhibit is made as follows :—

One pint of milk, one-half pint water boiled, cup of yeast, (common potato yeast used); flour (Haxall) to mould ; knead one-half hour. When well risen put in pans, let rise about one hour, then bake. This makes two large loaves.

STATEMENT OF R. K. PARKER.

The bread is made from Washburne's Haxall flour, three pints, milk one pint, raised over night ; kneaded about fifteen minutes in morning, then raised one hour in pans, baked one hour ; is twenty-four hours old.

Yeast is made by grating four good sized potatoes, with half cup of salt, one cup of sugar, and small handful of hops steeped in three pints of boiling water ; raised by cup of yeast from previous brewing.

STATEMENT OF MAGGIE MCNEICE.

Two cups boiled milk, two table spoons shortening, two table spoons sugar, one and one-half cups water, two-thirds cake compressed yeast, one table spoon of salt.

Mix while luke warm to a thick sponge, rise until light, mould and rise again until light ; then mould for the pans ; rise and bake. About nine hours is required for the whole process. This quantity is sufficient for two loaves this size. Baked Monday, 4 o'clock, P. M.

PEARS.

The Committee report:—

For the best twelve specimens recommended for cultivation in Essex County :

Bartlett Pear, Z. C. Wardwell, Groveland,	$3.00
Bell Lucrative, John Lee, Haverhill,	3.00
Beurre Rose, Joseph A. Brickett, Haverhill,	3.00
" " John Lee, Haverhill, gratuity,	1.50
Beurre de Anjou, J. J. Marsh, Haverhill,	3.00
Duchesse, John O'Brien, Bradford,	3.00
Dana's Hovey, J. H. Hill, Amesbury,	3.00
Lawrence, J. O'Brien, Bradford,	3.00
Bon de Jersey, B. Brickett, Haverhill,	3.00
Maria Louise, Richard Webster, Haverhill,	3.00
Onondaga, Z. C. Wardwell, Groveland,	3.00
Paradise de Autumn, H. Alley, Wenham,	3.00
Seckel, Albert Kimball, Haverhill,	3.00
Seckel, B. F. Huntington, Amesbury, gratuity,	1.50
Sheldon, John O'Brien, Bradford,	3.00

Sheldon, J. D. Foote, gratuity, 1.50
Urbaniste, W. W. Perkins, Newbury, 3.00
Mt. Vernon, J. H. Hill, Amesbury, 3.00

For each dish of any other variety, deemed worthy by the Committee, awarded as follows:

Beurre Superfine, E. F. Curtis, Groveland, $1.50
Beurre Hardy, Burton Flanders, Haverhill, 1.50
Bartlett, Breed of Lynn, gratuity, 1.50
Howell, C. P. Savory, Groveland, gratuity, 1.50
Vicar, John Curwin, Amesbury, gratuity, 1.50

For the best 24 specimens, T. K. Bartlett, Newburyyurt, Beurre Hardy, $6.00

For the best collection of the largest number of varieties recommended for cultivation in Essex county :—

J. H. Hill, of Amesbury, first premium, $8.00
E. Gage, Methuen, second premium, 6.00
E. F. Webster, Haverhill, third premium, 4.00
Z. C. Wardwell, Groveland, gratuity, 3.00

W. H. B. Currier, Hayden Brown.—*Committee.*

APPLES.

The Committee find it very difficult to do justice to all the contributors to this department of the Fair, owing to the limited time they have to do their work, and the great number of plates of apples, and the great number of varieties presented to them for inspection. Every plate of fruit presented for inspection was good and worthy of a premium or a gratuity, a fact that speaks well for the apple growers of Essex County. We hardly know where to stop awarding prizes, but are compelled to do so for lack of funds.

For the best twelve specimens of the following varieties which are recommended for cultivation in Essex County, your Committee have awarded premiums of three dollars each :

T. J. King, West Newbury, Baldwins; T. J. King, West

Newbury, Hubbardston Nonsuch; T. A. Sides, Groveland, R. I. Greening; Geo. Adams, Newbury, Roxbury Russet; Geo. E. Watson, Bradford, Gravenstein; S. F. Newman, Newbury, Drap'd Or; D. Bradstreet, Topsfield, Pickman's Pippin; Charles Killam, Boxford, King of Thompkin's Co.; W. W. Perkins, Newbury, Danvers, Winter Sweet; Z. C. Wardwell, Groveland, Tolman's Sweet; S. B. George, Groveland, Hunt's Russet; W. W. Perkins, Newbury, Porter; Andrew Dodge, Beverly, Sweet Baldwin; Andrew J. Lackey, Haverhill, William's Favorite; J. Henry Hill, Amesbury, Smith's Cider.

For twelve specimens of other varieties, $1.50 each:

D. Bradstreet, Topsfield, New York Pippin; T. G. Ordway, West Newbury, Northern Spy; Thomas P. Hale, Rowley, Pippin; William J. Brown, Bradford, Crimson Bough; E. A. Emerson, Haverhill, Northern Spy; Wm. W. Perkins, Newbury, New York Pippin; J. Henry Hill, Amesbury, Washington; D. G. Todd, Rowley, Todd's Sweet; E. A. Emerson, Haverhill, Green Sweet; Thomas P. Hale, Rowley, Spitzenburg; T. K. Bartlett, Newburyport, Lawrence; T. C. Thurlow, West Newbury, Fall Pippin; John O'Brien, Bradford, William's Favorite.

T. C. Thurlow, West Newbury, 24 specimens of Baldwins, $6.00.

Wm. W. Perkins, Newbury, 26 specimens of 26 varieties, $1.50.

J. Henry Hill, of Amesbury, best collection of ten varieties, recommended for cultivation in Essex County, $8.00.

Z. C. Wardwell, Groveland, second best collection of nine varieties, recommended for cultivation in Essex County, $6.00.

Gratuities of one dollar each were awarded to John O'Brien, Bradford, Baldwins; D. G. Todd, Rowley, Hubbardston Nonsuch; Mrs. S. Stewart, Middleton, Hubbardston Nonsuch; S. F. Newman, Newbury, R. I. Greening; J. Henry Hill, Amesbury, Granite Beauty; S. F. Newman, Amesbury, Roxbury Russet; S. B. George, Groveland, Baldwin; T. K. Bart-

lett, Newburyport, Gravenstein; C. R. Anderson, West Boxford, King of Tompkin's Co.; T. G. Ordway, West Newbury, Gravenstein; D. M. Verry, Danvers, Drap d'Or; J. Henry Hill, Amesbury, King of Tompkins Co.; S. B. George, Groveland, Danvers Sweet; John O'Brien, Bradford, Golden Russet; T. C. Thurlow, West Newbury, Porter; Alfred Ordway, Bradford, R. I. Greening; Geo. Adams, Newbury, unnamed; S. P. Currier, East Haverhill, Lincoln Seedling; C. R. Anderson, West Boxford, Hubbardston Nonsuch.

Daniel Bricket, No. Haverhill, Winter Porter, Copy "Birds of New England."

D. M. Cole, West Boxford, Roxbury Russet, Copy of "Birds of New England."

Premiums awarded for best collection of Crab apples.

Geo. L. Hawkes, Lynnfield, three varieties, $5.

T. C. Thurlow, West Newbury, three varieties, $1.50.

Arthur W. Haskel, Haverhill, one plate, $1.50.

J. Henry Hill, Amesbury, $1.50.

Geo. F. Morse, $1.50.

Daniel Brickett, No. Haverhill, $1.50.

In closing their report on apples, your Committee would express the belief that apple culture should receive very much more attention from the farmers than it now does.

Apples are a healthful and nutritious food for horses, cattle and swine; and in the family, for table and culinary uses, they are almost indispensable.

It is true there are many pests that infest our orchards, and sometimes, the farmer is almost discouraged. Very often what the caterpillar and canker worm leave the apple worm destroys, and the farmer says "It is no use, I am going to cut down my orchard."

Notwithstanding these hindrances to the successful culture of the apple, we believe the apple crop is, or may be, the most profitable crop of the farm.

Joseph Howe, Esq., a former president of this Society, has taken great interest in this subject, and has recently given to

the public, through the press, a very instructive article on apple culture. We commend it to the attention of all growers of this important fruit.

Attention is now being directed to the apple worm, its origin, and the best means of destroying it; and we would suggest whether it would not be wise for this Society to offer a premium for the best essay on the apple worm and the best means of exterminating the same, without injury to the tree or fruit.

Samuel G. Sargent, Chas. P. Mighill, Luther Allen, Daniel Plummer.—*Committee.*

PEACHES, GRAPES AND ASSORTED FRUIT.

The Committee to whom was entrusted the awarding of premiums for Peaches, Grapes and Assorted fruits have attended to their duties, and have awarded the following premiums.

No. 38, C. R. Lancaster, Yellow Flesh Peach, first premium, $2.
No. 37, J. E Stanwood, White Flesh Peach, first premium, $2.
No. 36, S. K. Griffin, Essex County Seedlings, first premium, $2.00.
No. 52, E. F. Webster, Best Collection Peaches, first premium, $3.
No. 23, T. K. Bartlett, Seedling, Gratuity, $1.
No. 11, W. F. Evans, Seedling, Gratuity, $1.
No. 28, J. Flook, Foster, Gratuity, $1.
No. 15, H. H. Foster, Early Crawford, Gratuity, $1.
No. 22, David Williamson, Seedling, Gratuity, $1.
No. 50, G. W. Gage, Assorted Fruit, first premium, $4.
No. 24, W. Bradstreet, Foster Peach, Gratuity, $1.
No. 39, John Kelso, Old Mixon Free Stone, Gratuity, $1.
No. 21, N. K. Fowler, Late Crawford, Gratuity, $1.
No. 27, C. F. Winch, Yellow Flesh, Gratuity, $1.
No. 37, J. E. Stanwood, Late Crawford, Gratuity, $1.

GRAPES.

No. 34, Charles E. Poor, Concord, first premium, $3.
No. 17, J. H. Kief, Concord, Gratuity, $1.
No. 50, G. W. Gage, Warden's Seedling, first premium, $3.
No. 43, Thomas E. Watson, Brighton, first premium, $3.
No. 44, T. A. Sides, Hartford, first premium, $3.
No. 3, R. Goodwin, Isabella, first premium, $3.
No. 3, R. Goodwin, Delaware, first premium, $3.
No. 24, Augustus Verry, Creveling, first premium, $3.
No. 50, G. W. Gage, Rogers No. 3, first premium, $3.
No. 53, F. Sargent, Israella, first premium, $3.
No. 4, Augustus Verry, Rogers 15, first premium, $3.
No. 50, G. W. Gage, Collection of Grapes, first premium, $7.
No. 42, E. G. West, Plate of Delaware and Concord, Gratuity, $1.50.
No. 33, Z C. Wardwell, Eumeline, Gratuity, $1.
No. 5, Mrs. Isaac Harding, Seedling, Gratuity, 50 cents.
No. 4, James Leach, Lee's Early Black, Gratuity, $1.
No. 7, J. Lee, Lee's Early, Gratuity, $1.

PLUMS.

Andrew J. Lackey, Plums, Gratuity $1.
No. 18, J. W. Titcomb, Blackberries, Gratuity, $1.
G. G. Prince, Kittsaninny Blackberries, Gratuity, $1.
No. 13, G. A. Osgood, California Plums, Gratuity, 50 cents.

FLOWERS.

The Committee award as follows :—

To Geo. H. Hill, Haverhill, Floral Design ; Emma H. Gage, Methuen, Dish Cut Flowers ; do, do, Marigolds ; Andrew J. Lackey, Haverhill, do and Balsams, each prem. $2 ; Alfred Green, Salisbury, 12 Dahlias ; Mrs. L. P. Weston, Danvers, Pansies ; Mrs. M. P. Nichols, Lynn, Zinnias ; do, do, Mourning Bride; Mrs. N. E. Ladd, Groveland, Drummond Phlox ;

James L. Willey, Lynn, Lill Dahilas ; Geo. O. Thurston, Mix'd Eternal Flowers ; Mrs. L. P. Weston, Danvers, Everlasting do; E. N. Jaques, Haverhill, Pot Plant; Rebecca F. Carleton, Autumnal Roses, prem., $1 each ; Mrs. C. N. S. Horner, Georgetown, Native Flowers, prem., $3 ; W. H. Spooner, Boston, Display of Nasturtions; Mrs. L. P. Weston, Danvers, best display ; T. C. Thurlow, West Newbury, Display of Trees and Shrubs, prem., $4 each; Daniel Hooke, Haverhill, Cactus; E. N. Jaques, do, Hollyhock ; B. M. Johnson, do, Flowering Plant ; Nettie L. Webster, do, Wild Flowers; Mrs. Mary Hatch, do, Parlor Bouquets; Mrs. J. H. Hill. Amesbury, Gladioli ; Mrs. M. E. Fuller, Middleton, Wild Flowers ; Mrs. Charles B. Emerson, Haverhill, Amaryllis ; George O. Thurston, bouquet; Mrs. J. N. Littlefield, Haverhill, Pot Plants; Mrs. L. P. Weston, Danvers, Marigold ; Anna R. Dodge, Haverhill, display of Wild Flowers; A. Shirley Ladd, Groveland, do; Mrs. W. W. Currier, Bradford, Pot Plants, &c., gra., $1 each. F. Kief, Haverhill, Cacti, 26 varieties, gra., $3. E. M. McLaughlin, Haverhill, collection of Ferns and Foliage Plants, gra., "Birds of New England."

The flower exhibition of the season was an inferior one, but this is not surprising, for no part of our annual exhibition begins to suffer so much from an unpropitious season or unfavorable weather occurring near the time of exhibition as the flower department. It is within bounds to say that one stormy day occurring within a week of the day of exhibition will destroy at least one-half of the show flowers of our gardens, no matter how favorable the weather may be in the period intervening; and should a storm occur within three days of the annual exhibit, then at least nine-tenths of the show flowers will be ruined. Having to contend with both a remarkably unpropitious season and weather unfavorable just before the time for the annual exhibit, what could we reasonably anticipate in this department whose beauty and comeliness is fully equalled by its frailty?

The remarkably choice show of Nasturtiums, by Mr. Spoon-

er, a fine display of native flowers, and the tasteful setting-forth of the entire display by a background of a few fine plants, were the strong points of the flower department.

SELF-SEEDING ANNUALLY.

It is rare to find a New England woman who is not a lover of flowers, with pets of the window or the garden which are the poetry of her life, her joy and her consolation amid the hard grind of her daily round of toil. Her regret is that she has not the time, room or means at her command for a larger cultivation of these glories of the Creator. I have a great sympathy for these sisters, and never do I enjoy my own flower garden so much as when enjoying their enjoyment; for never is woman so lovely as when in the presence of beautiful flowers; she pours out her best self in a love and admiration as simple and as natural as that of a child. For the large class, who have so great a love for flowers with but limited means to gratify it, I have a few suggestions.

We can get the largest returns from our flower gardens for the labor invested by planting shrubs and perennials. These will all know when Spring has come without any thought on the part of the gardner, and with but little outlay of care will make their annual returns of blossoms with each revolving year. But let those who plan on a larger scale, but whose means are limited, invest as large a proportion of their fund devoted to flowers as possible in the self-seeding annuals. These include many of our finest flowers, among which are the Verbena, Balsam, Petunia, Sweet Alyssum, Abronia, Umbellata, Candytuft, Catchfly, Cockscomb, tall Convolvulus, Coreopsis, Escholtzia, Larkspur, Hibiscus, Ipomea, Marigolds, Mignonette, Poppy, Salphiglossis, Portulacca and Pansy. All of these can be depended upon to mature their seed every season, if planted in the open ground by the first of June, and every one of them if allowed to go to seed will show a progress of a thousand fold each year. The Aster may be added to the list, but it cannot always be depended upon to mature its seed

when planted in the open ground. This list includes the majority of the most brilliant flowers of our gardens, and when it is considered that five cents will purchase a package of seed of nearly all of these, and ten cents of the remainder, and that when once planted no further outlay will be needed for a generation; even those housewives who are driven by a hard necessity to exercise the utmost frugality, if, with a small area at command, can afford a garden for their own pleasure and the cultivation of the love of the beautiful in their growing families. There are a few facts worth noting relative to these self-seeders. 1st, That the quality of the flowers does not deteriorate when nature is allowed to sow them year after year. 2d, That these self-sown seed come up earlier, bloom earlier, and under the same conditions of room and food the plants from them are more vigorous than those raised from hand sown seed. 3d, That owing to the shallow planting required a large portion of seed planted by hand is apt to fail, not obtaining sufficient moisture at the surface to enable them to vegetate; or, if a heavy rain falls soon after planting, are liable to be washed out, or high winds prevail, the covering soil and the seed itself is likely to be blown away.

To get their best development from these self-sown plants, a caution is needed, and that with some emphasis,—*thin your plants very boldly.* Begin the thinning process when they are about an inch high. It is safe to say that not one lady in a hundred has the courage to thin her plants as liberally as is necessary to obtain their natural form and the largest and best display of the flowers; and further that what little thinning is done is done too late, leaving the plants remaining both slender and tender.

It requires a considerable degree of moral courage for our housewife when she finds her garden at mid-spring covered with numberless vigorous young plants, considering, as she involuntarily does, the possibilities wrapped up in each individual one, that it has the capacity to bear numberless beautiful flowers—to grasp them with fingers that seem wanton, and

throw them by scores to be trodden under foot. She can rarely bring herself to treat her pet so cruelly, and the result is that in almost every garden may be seen ten plants occupying the space needed for the full development of one, all crowding each other out of all shape and comeliness, and finally pushing up a few struggling terminal flowers to beg a gleam of sunlight. Accept good advice; believe in the "survival of the fittest" and thin boldly. Make three thinnings: the first when an inch in height; again when two or three inches, and finally in a week from this thin to as few as your conscience will allow, then shut your eyes and pull up at least half of what remains. Have you ever seen the normal form of our common garden flowering plants? When crowded into an area of a few square inches, none of them has liberty to reveal itself to us. Even that small plant, the Pansy, or the Portulacca, requires a square foot of room to enable it to develop the symmetry of its structure; and this word symmetry belongs to every plant of the garden; it is safe to say that every one of the hundreds of varieties found in our gardens would display the beauty of symmetry in its proportions were it allowed to develop its normal form.

A word about some peculiarities of one or two of the varieties in the list given. But few people appear to be aware of the capacity of the verbena for self-seeding and the great variety in the colors of plants thus grown. There is an impression that the colors are nearly all confined to the purple tints, and that the flower heads are not well filled out. On my own grounds which are a good loam, a little inclined to sand at the surface, with a sub-soil of hard pan, even after the land, where the verbena grew the year previous, has been ploughed, the plants will come up ten times as thick as they should be allowed to stand. In one bed I counted twenty-five different colors and shades; as many as were to be found in the bed adjoining, raised directly from seed, hand-planted the same season. The one color all verbenas raised from seed are deficient in, is scarlet, but this applies as generally to hand-planted beds as to the self-seeding.

Abronia Umbellata is a California flower, with a low running habit, in this quality and in the form of its flowers bearing a close resemblance to the verbena. It has a very delicate and delicious perfume, and being in its glory in the hottest and dryest of weather, when most of the other flowers of the garden are panting out a sickly life, it fills a place of its own.

Sweet Alyssum is unsurpassed among flowers for a wonderful vitality. Lengthening its flowering stem, it carries blossoms through the entire season; if a severe drought brings it to look in a way that would mean death in almost any other flower, be assured that as soon as rain falls it will revive and grow with its old vigor.

Three of the varieties need some looking after at seed time, viz.: Petunia, Portulacca and Hibiscus, lest in the following season a numberless progeny demonstrate the definition of a weed, viz.: "a plant out of place," for with the exception of the always to-be-excepted Ground Cherry, (*Alkekengi*), these, if allowed to seed themselves freely, may make the worst weeds of the garden.

J. J. H. Gregory, *for the Committee.*

VEGETABLES.

The Committee award as follows:—

To Perley Johnson, Boxford, best early B. T. Beet; Moses B. Abbott, Long O. Carrot; M. T. Batchelder, Peabody, Short H. do.; J. D. W. French, North Andover, Mangolds; H. A. Stiles, Middleton, Flat Turnips; M. S. Jenkins, North Andover, Ruta Baga; Albert Emerson, Haverhill, Parsnips; Charles A. Anderson, Boxford, Danvers Onions; W. W. Perkins, Newbury, Red do.; Moses B. Abbott, Savoy Cabbage; Chester Kilham, Fottler do.; M. F. Batchelder, Peabody, Flat Onion; J. D. W. French, North Andover, Stone Mason Cabbage; George K. Pierce, West Newbury, Mammoth do.; Moses B. Abbott, Red do.; Moses B. Abbott, Cauliflowers; Samuel Beattie, Bradford, Celery; Samuel Longfellow, Grove-

land, Field Corn; Aaron Low, Essex, Early Sweet do.; B. H. Farnham, North Andover, Late do.; Frank Eaton, Haverhill; Pop Corn; Moses L. Sawyer, Turban Squash; M. F. Batchelder, Peabody, Nutmeg Melon; A. P. Johnson, Bradford, Musk do.; Andrew J. Lackey, Haverhill, Water do.; H. A. Stiles, Middleton, best picked Cranberries; Premium of $3 each. Alfred Green, Salisbury, best E. R. and Beauty of H. Potatoes; Rufus Goodwin, Haverhill, Goodwin's Seedling and Ohio do.; Alfred Green, Salisbury, Dunmore and Burbank, do.; Premiums of $6 each. M. F. Batchelder, Peabody, 2d best Savoy Cabbage; Richard Webster, Haverhill, 2d best Fottler do; A. Perley Johnson, Bradford, 2d best Mammoth Cabbage; C. R. Anderson, Boxford, 2d best Red do.; M. S. Jenkins, 2d best Cauliflower; Premiums of $2 each. Aaron Low, Essex, best Spherical Essex Hybrid and exhibitions of dish of Tomatoes; Premium of $12. Aaron Low, Essex, best collection of vegetables; premium of $8. Albert Emerson, Haverhill, best collection of vegetables; gratuity, $5. M. H. Poor, West Newbury, Potatoes; A. R. Johnson, collection, do.; Gratuities of $2 each. Frank G. Phillips, Bradford, collection do.; R. Webster, Haverhill, Peppers; C. K. Ordway, West Newbury, Field Corn; gratuities of $1 each.

COUNTERPANES, CARPETINGS AND RUGS.

The Committee award as follows:—

To Miss M. R. Nichols, Haverhill, silk counterpane, first premium, $4; C. D. Ellis, do., knit counterpane, second premium, $2; Mrs. Henry Whitman, do., drawn rug, first premium, $3; Mrs. Walter Ordway, braided rug, second premium, $2; Mrs. L. S. Charles, Bradford, counterpane, gratuity, $1; Mrs. T. Currier, Haverhill, do., gratuity, $1; Mrs. Mary B. Holt, do., do., 1; Mrs. J. P. Neally, do., do., 1; Flora S. Haines, do. do., Mrs. —— Bradley, do., do., Mrs. J. Perley, Bradford, do., Mrs. W. S. Perley, Haverhill, do.; Mrs. E.

Wasson, do., do., Mrs. J. M. Palmer, do., do., gratuity, 50 cents each, Mrs. Bodwell, do., do., Munroe Ayer, do., do., Annie H. Means, do., drawn rug, Mrs. J. H. Choate, do., do., Mrs. Henry Whitman, do., do., Mrs. C. K. Ordway, West Newbury, do., Mrs. Samuel Holmes, Haverhill, braided rug, gratuity, $1 each; Miss Judith Blaisdell, do., do., Mrs. W. Phillips, Bradford, Turkish rug, N. H. Fish, Danvers, rug, Mrs. Nathan Perley, Methuen, rug, B. S. Grace, Haverhill, rug, Mrs. Josiah B. Hale, do., drawn rug, Mrs. H. C. Crocker, do., do., Mrs. C. H. Merrill, do., braided rug, Mrs. J. M. Palmer, drawn rug, gratuity, 50 cents each.

Clara A. Hale, Mrs. H. P. Noyes.—*Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

Your Committee on Articles Manufactured from Leather beg leave to report:

That they have inspected the articles in that department presented for competition and show, and while the extent of the same is by no means as large and extensive as it should be, considering that this is one of the largest if not the greatest industry of our county, is now and has been scarcely represented at all in comparison to its extent, is very creditable as far as it goes.

There are engaged in this pursuit four or five times the number of your sons and daughters of those in any other of the various industries which you represent and for their good and the Farmers' information and the general progress and welfare of the county, it appears to us to be a privilege, if you should so deem it best, to hereafter place a larger amount at the disposal of the committee in this department, that those engaged in this department of labor may be more largely interested than heretofore, with others in this annual exhibition.

We have awarded as follows:—

Daniel Peters, Haverhill, for the exhibition of one set of

Coach Harnesses and two single harnesses, a gratuity of $10.

E. A. Putnam, Beverly, one set Heavy Harnesses and one single Harness,—nickle plated, of very excellent workmanship, for use designed—a gratuity of $5.

C. E. Sturgis, Haverhill, one single Harness together with case harness trimmings, gratuity of $3.

John E. Kimball, Haverhill, goods manufactured in Essex County, Diploma.

H. P. Fairbanks & Co., Haverhill, Case Boots and Shoes, general variety, gratuity, $4.

Hood & Veasey, Haverhill, Boots and Shoes, general variety, gratuity, $4.

D. L. Bartlett, Haverhill, Case Boots and Shoes, general variety, gratuity, $4.

Other exhibitions of Boots, Shoes and Leather, were presented, upon which no special mention was asked.

All of which is respectfully submitted.

Moses How, James Wilson, Chas. J. Peabody.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee award as follows:

To J. H. Brown, Lynn, combination sled, gratuity, 50 cents; S. J. Davis, Haverhill, dressing bureau, gratuity, 50 cents; Frenchmen, Haverhill, table, checkerboard, &c., gratuity, $1.50; J. Bodown, Rockport, tree protector, gratuity, 50 cents; Louis Bruce, Haverhill, chain, gratuity, 50 cents; D. J. Mahoney, do., cribbage box, gratuity, 50 cents; Mrs. Willie Berry, do., case of millinery, gratuity, $2; Carrie H. Horton, do., do., gratuity, 1; L. J. Harding, do., do., gratuity, 1; F. E. Pollard, Haverhill, case, gratuity, 2; E. Bagar, do., fancy case, gratuity, 2; John Hulford, do., cribbage boxes, gratuity, 1.50; H. N. Noyes, Georgetown, desk and table, gratuity, 1; Mrs. M. G. Clay, Haverhill, millinery, premium, 4; Stevens & Co., do., large display of flannels, &c., diploma; A. R.

Prescott, Newburyport, lightning rod, gratuity, 1; E. J. Harris, Haverhill, card table, gratuity, 1; J. Harriman, do., brackets, gratuity, 50 cts.; E. H. P. Abbott, do., manufactures, gratuity, 1; Mrs. Aaron Hoyt, do., rocking chair, gratuity, 50 cents; Wm. Sellers, do., street passing, gratuity, 1.

Haydn Brown, D. I. C. Hidden, Eben Webster.—*Committee.*

FANCY WORK AND WORKS OF ART.

The Committee award as follows:

To M. G. Bridgman, Haverhill, paintings, gratuity, $3; Mrs. H. E. Harding, do., do., do., 2; Miss Handy, Bradford, do., do., 1; Miss Carrie G. Bartlett, Haverhill, do., do., 2; Miss Carrie Moon, do., do., do., 1; Mrs. Homer Brooks, do., do., do., 2; Miss Grace H. Kimball, Bradford, do., do., 1; Miss Clara Savary, Groveland, do., do., 50 cents; C. H. P. Roney, Lynn, do. do., 50 cents; Miss Carrie T. How, Haverhill, do., do., 50 cents; Miss Hettie H. Russell, do., do., do., 50 cents; Miss Lizzie Harriman, do., do., do., 1; Miss Sorrenson, Merrimac, do., do., 50 cents; Mrs. S. A. Palmer, Haverhill, do., do., 50 cents; P. S. Pearson, Bradford, knit skirts, do., 50 cents; Nellie Allen, Haverhill, skirts, do., 50 cents; Florence Appleton, do., hood, do. 50 cents; Mrs. Mulvey, do., worsted bird, do., 50 cents; Wm. Bixby, do., case butterflies, &c., do., 1.75; Mrs. V. Moulton, Boxford, hand knitting, do., 1; Mrs. J. W. Sanborn, Haverhill, do., do., 1; M. W. Batchelder, Lynn, do., do., 50 cents; May Harding, Haverhill, pillow shams, do., 50 cents; Mrs. G. R. Bennett, do., do., do., 50 cents; May Dodge, do., hand bag, do., 50 cents; Mrs. George Savory, Groveland, toilet set, do., 50 cents; Mrs. Charles Wood, Bradford, sofa pillow, do., 1; Walter Emerson, do., do., do., 75 cents; Mattie J. Morse, do., do., do., 50 cents; May J. Twombley, Haverhill, do., cover, do., 50 cents; Lucy Caldwell, do., table cover, do., 1; Mrs.

Richardson, do., do., do., 75 cents; Lizzie Huse, Methuen, do., do., 75 cents; Mary W. Johnson, Haverhill, do., do., 50 cents; Nellie Greenleaf, Haverhill, afghan, do., 1; John Pilling, do., do., do., 50 cents; Ruby Fifield, do., do., do., 50 cents; Mrs. V. Smiley, do., tidy, do., 75 cents; Miss Richardson, do., do., do., 50 cents; Miss Mary Hoyt, Newburyport, do., do., 50 cents; Miss Carrie Reed, Haverhill, do., do., 50 cents; M. Fannie West, do., do., do., 50 cents; Mrs. James Carr, West Newbury, laces, do., 1.50; Mrs. C. Johnson, Haverhill, do., do., 2; Louisa Hopkinson, Bradford, do., do., 2; Mrs. C. Ordway, West Newbury, do., do., 1.50; Mrs. Ira Abbott, Haverhill, flannel embroidery, do., 75 cents; Mrs. Crosby, Georgetown, do., do., 75 cents; Jennie Mackie, Groveland, do., do., 50 cents; Mrs. Pillsbury, Haverhill, case of embroidery, do., 75 cents; Hattie Patch, do., hand made shawls, do., 50 cents; C. Harriman, do., do., do., 50 cents; A. J. Fox, do., knit skirts, do., 50 cents.

CHILDREN'S WORK.

The Committee award as follows:—

To Belle L. King, Bradford, Needlework, first premium, $3.

Susie G. Allen, Haverhill, Painting, second premium, $2.

Kindergarten School, Haverhill, gratuity, $2.50.

Bertie Goodrich, Haverhill, Painting; Annie G. Davis, Haverhill, Painting; gratuities of 75 cents each.

George M. Woodman, Groveland, Drawings; Wilmot L. Marden, Lynn, Patchwork; Kate M. Blunt, Haverhill, Patchwork; Florence Blunt, Haverhill, Patchwork; Edith Sargent, Haverhill, Needlework; Frank R. Page, Bradford, Needlework; Fred W. Page, Bradford, Needlework; Daisy Ladd, Haverhill, two Mottoes; Gertie M. Ordway, Haverhill, Needlework; Blanche A. Chadwick, Boxford, pair of Stockings; Maud L. Lowell, Salisbury, Crotchet Tidy; Edith M. Newman,

Haverhill, Towel Rack; Sarah S. Merrill, Haverhill, Pillow Slips; gratuities of 50 cents each.

Mrs. P. B. How, *for Committee.*

GRAIN CROPS.

The crop of corn raised by Charles W. Adams, of Newbury, was examined by the committee and found to be a fine crop for this unfavorable season, quite even and well filled out. Although the statement is not quite as full and minute as it should be, we recommend the premium of $10.

We recommend the first premium of $10 to Richard Newell, of West Newbury, for the crop of rye entered by him. His statement annexed is clear and full.

We recommend the premium of $10 to Charles W. Adams, of Newbury, for his crop of wheat, the statement being annexed.

The grass crop entered by Mr. Wm. W. Perkins, of Newbury, the committee found to be very heavy and quite even, with a little foul stuff mixed in, and therefore the quality of the hay was not as good in consequence, and also on account of wet and cloudy weather in June. We recommend the first premium of $10.

M. C. Andrews, *for the Committee.*

STATEMENT OF WILLIAM W. PERKINS.

The crop of grass which you examined in July, which I entered for premium was grown on one acre of land, cut the second week in July, weighed 6700 pounds. The second crop was cut the last of September, weighed 2110 pounds.

Thirty-five years ago the land was cleared up, being covered with a growth of alders and huckleberry bushes; at that time it was seeded down with herds grass and red top; for the first few years the crop was a fine one, since then it has been quite small, hardly paying for harvesting. The land was ploughed

in August, 1880, rolled, and ten cords of manure carted on from barn cellar, spread and harrowed with Randall harrow and brush harrow until it was made fine; one peck of herds grass and one-half bushel of red-top seed was sown; whole cost of manure and labor about 75 dollars. I have known some farmers to use more seed, as much as one bushel to the acre, of herds grass seed. My experience for more than forty years is, that one peck of herds grass and from one-half to one bushel of red-top is quite enough to the acre if the ground is in suitable order. Some farmers say that it costs twenty dollars a ton to raise English hay. I think much depends on the quality of the soil.

NEWBURY, Oct. 19, 1881.

This is to certify that I measured the land entered by Wm. W. Perkins, for premium on grass, and that it contains one acre. EDWIN P. NOYES.

I hereby certify that the above hay weighed (6700), six thousand seven hundred pounds; that the second crop weighed twenty-one hundred and ten pounds. FRANK PERKINS.

NEWBURY, Oct. 18, 1881.

STATEMENT OF CHAS. W. ADAMS.

The Wheat which I enter was raised on one acre of land. The soil is rather a heavy loam. In 1880 the land was sown to sugar beets and oats. I littered my cattle with a plenty of salt hay, and threw it out with their manure daily. I used about seven cords of this manure in a green state. In 1881, I ploughed the land the first week in May, about five inches deep, using no manure. I sowed one bushel and one peck of seed to the acre. Cost of ploughing, harrowing, and rolling, $5; cost of seed and sowing, $2; cost of cutting and harvesting, $10; cost of threshing and winnowing, $10. The wheat was weighed on Fairbank's scales. The amount was forty-one

bushels and fifty-two pounds. I can sell the wheat at $1.60 per bushel; value of wheat, $66.98. I had 4495 lbs. of straw which I sold for $14 per ton, amounting to $31.46.

Cost of ploughing, harrowing and rolling,	$5.00
Cost of seed and sowing,	2.00
Cost of cutting and harvesting,	10.00
Cost of threshing and winnowing,	10.00
	$27.00
Value of wheat,	$66.98
Value of straw,	31.46
	$98.44
Cost,	27.00
Profit,	$71.44

This certifies that I surveyed the acre of land on which the above crop was grown. PHILIP D. ADAMS.

I certify that I weighed the wheat and that it is as above stated. JACOB D. RAY.

STATEMENT OF RICHARD NEWELL.

The land on which the crop of Rye which I offer for premium was grown, was ploughed in the spring of 1880, and six cords of good barnyard manure spread on and harrowed in, and planted with potatoes on the 11th of May. Harvested the crop the first week in September; had 150 bushels of excellent potatoes and 50 bushels of small ones. As soon as the potatoes were off, I ploughed the land and sowed four hundred lbs. of Crocker's Ammoniated Bone Phosphate, and sowed to Winter Rye on the 9th of September, sowing one bushel of seed. Crop reaped and stacked July 27, 1881. Aug. 6th had the crop weighed on public scales and put in barn. Aug. 16, finished threshing and winnowing and

weighed the grain. The total weight of the crop when put in the barn was 7395 lbs. Weight of clear grain, 2523 lbs. Sept. 5th, sold and delivered to Mr. Hunkins of Haverhill 2310 lbs., and kept for seed 182 lbs., making a total of 2492 lbs., showing a loss of 28 lbs. since winnowing.

Cost of Crop.

Preparing ground,	$4.00
Seed and Sowing,	2.00
Phosphate and Sowing,	11.00
Reaping and Stacking,	8.00
Hauling to barn and weighing,	4.00
Threshing and Winnowing,	8.00
Interest on value of land,	6.00
Total,	$43.00

Value of Crop.

2493 lbs. of grain at $1.10 per bu. of 56 lbs.,	$48.95
4500 lbs. of straw (estimated) at $16 per ton,	36.00
Total,	84.95
Cost,	43.00
Profit,	$41.95

I hereby certify that the above statement is correct, and that I measured the land on which the crop grew, and that it contained one acre and one rod, and no more.

STATEMENT OF CHAS. W. ADAMS.

I make the following report of one acre of corn which I have entered for a premium. The soil is rather a heavy loam. The land was sowed to wheat in 1880 without any manure. In 1881 I ploughed it six inches deep at a cost of $2.00. Cost of harrowing, $1. I put the manure in the hills, using about three cords. It consisted of barnyard manure and thatch well rotted down. Cost of manure, $15;

cost of planting, and seed, $5 ; cost of cultivating, $5. The stover will more than repay the cost of harvesting and husking. I had the three rows, designated by the committee, husked and weighed. The weight of corn in the ear was five hundred and one-half pounds. Thirty-seven rows of the same length make one acre. Allowing 70 pounds in the ear to make a bushel, I had over 88 bushels to the acre of shelled corn at 80 cents per bushel, which amounts to $70.40.

Cost of ploughing,	$2.00
Cost of harrowing,	1.00
Cost of manure,	15.00
Seed and planting,	5.00
Cost of cultivating,	5.00
	28.00
Value of corn,	$70.40
Cost,	28.00
Profit,	$42.40

This certifies that I surveyed the acre of land on which the above crop was grown. PHILIP D. ADAMS.

I hereby certify that I husked and weighed the three rows of corn designated by the committee. The weight of the corn was five hundred and one-half pounds.

JACOB D. RAY.

STRAWBERRIES AND OTHER SMALL FRUITS.

The Committee on Strawberries and other small fruits report three entries of Strawberries and one of Raspberries.

We award the premium of $10 for the best crop of Strawberries, to B. F. Huntington of Amesbury.

The premium of $10, for the best crop of Raspberries, to Henry K. West, of Haverhill.

E. P. Richardson, *for the Committee.*

STATEMENT OF BENJ. F. HUNTINGTON.

The crop of Strawberries which I entered for premium was raised on 147 41-100 rods of land, which in 1877 was a bound out field of grass partially covered with White Birches, Wild Cherry, Ground Hemlocks, etc., and did not yield three hundred pounds of hay on the whole piece. In 1878 I dug up the trees by the roots, broke the land and planted with corn, using Stockbridge Fertilizer, three-fourths harrowed in and one-fourth in the hill ; did not get enough corn to pay for manure. In 1879, I planted with potatoes, using about four cords of manure, harrowed in and Bradley's Phosphate mixed with Plaster, half and half in each hill. Had a fair crop of potatoes. On a part of the land, forty-two bushels from one bushel planted. I mention this crop to prove that strawberries can be raised with success after a good crop of potatoes ; some contend that this crop is not good for strawberries to follow, but I have always better success after potatoes than corn. In the spring of 1880 I spread 7½ cords of stable manure ploughed in, then ploughed again across the furrows ; then harrowed in 100 bushels leached ashes with a Randall Harrow. I marked the rows 4½ feet apart, then furrowed two rows at a time. I set the plants about 15 inches apart in the rows. During the summer the ground was kept clear of weeds and the runners placed as near even as practicable. About the first of November, a light coat of pine needles was put on to serve as a part of covering and also as a mulch for the coming summer. The 25th of November, a good covering of salt hay, enough to cover all the plants, was spread on. In the spring the hay was taken off, and the pine needles left on as a mulch. The following is the cost of cultivation.

To 22 loads Stable Manure (of 30 bu.),	$45.00
To 100 bushels of ashes,	20.00
Preparing land and setting plants,	14.50
Cultivating, Hoeing, Weeding and placing runners,	22.00
Collecting material for covering,	8.25
Covering,	6.25
Removing covering,	2.25
Picking and Marketing at 2½,	176.52
	$294.77
Cr. by 7100 plants sold,	35.50
By 7061 boxes strawberries, at 10¼ cts.,	723.75
	$759.25
Leaving a balance of	$464.48

It will be seen that I do not charge any of the work of applying the fertilizer as I consider that the land is enough better to off-set that. Nor do I charge the crop with the plants set, as I do not credit it with the plants taken to set this year. The variety is mainly Wilson's Albany, although several other varieties were raised. I can here give the products of the different varieties.

1 bed Monarchs,	305	ft.	long,	5	ft.	wide.	Product,	204	bxs.
2 beds Col. Cheney's	204	"	"	3	"	"	"	365	"
1 bed Chas. Downing's	170	"	"	4	"	"	"	74	"
2 beds Crescent Seedling	204	"	"	3	"	"	"	350	"
30 " Wilson's Albany	250	"	"	3½	"	"	"	6068	"

This gives the Wilson's Albany about 63 boxes to the rod.
" " " Crescent Seedling " 65½ " " " "
" " " Col. Cheney's " 68½ " " " "
" " " Monarch's " 37 " " " "
" " " Chas. Downing's, " 29½ " " " "

The above account is made up from the number of rods in a bed, solid, the paths excluded. As to the varieties, I have always contended that the Wilson was far ahead of all others,

and in despite of the rust or blight, which on a part of the piece (as the Committee saw), very much damaged the crop, the product came nearly up to the Crescent. I have stated that the Col. Cheney came out ahead in product of all the others. It is a very large and handsome berry and brings from two to three cents per box more than the Wilson. The berries do not dwindle down, but hold out large to the end of the season, although the last pickings are rather soft and not so good in quality as the first pickings. The Monarchs did exceedingly well this season and were of good quality. The Chas. Downing, as has been seen, yielded the least of any, but the quality is best; but I do not see how it can pay at two to three cents per box extra. The foliage rusts very badly, while the Col. Cheney, the Crescent and Monarch are not affected. The Sharpless with me was a failure, although some report two-thirds of a crop of handsome fruit. I should recommend the Wilson, Col. Cheney and Crescent seedling for general cultivation.

This certifies that on the 21st day of July last I surveyed the above named strawberry patch, and found it to contain 147 41-100 rods of ground.

Jos. Merrill, Surveyor.

STATEMENT OF H. K. WEST.

The crop which I offer for the Society's premium of Philadelphia Raspberries were from plants of two, four and six years growth. Land, light loam, used as a pasture previously, and covered with a growth of white birch, thorn trees, &c., which were dug out the fall before the plants were set. The land was ploughed about six inches deep; about five cords of stable manure was applied and twenty or thirty barrels of hen manure spread upon the furrow and thoroughly harrowed in. The plants were set about the latter part of April in rows eight feet apart, by three feet in the row, and with a row of strawberries between each row of raspberries. This was culti-

vated and hand-hoed three times during the season, or until the strawberry plants covered the ground.

Now comes the important part in raising a crop of raspberries, in my estimation, which consists in pruning and nipping back, at just the right time in order to get a short, compact bush, with a great many strong laterals.

To get this form I go through and nip back the young shoots to eighteen inches. This must be done about four times during the growing season; this is all the pruning I do the first season. The next spring, before the frost is out of the ground, I cut back the side branches to one foot in length. I never do any fall pruning, as I think the more brush left on the ground through the winter the better, as it helps keep the snow from blowing off, which is our best winter protection. On plants which fruited the year before I cut out the old wood, and cut back the new to one foot, early in the Spring.

After the first year the cultivation consists in keeping the land free from weeds until just before picking, when I mulch with meadow hay. Every second year I apply a shovel full of stable manure to the hill.

Of course the cost of cultivating an acre of raspberries would vary so, according to the age of the plants, that any estimate I could make, (the plants being of two, four and six years growth), would be of no practical benefit to other cultivators. The cost of cultivating the first year would be very little as we cultivate and hoe the same as for corn. But as the plants increase in age, the cost of keeping the ground clean, picking, and pruning increase.

Until at the age of five or six years I think it pays better to plough out the old plants and set out new. I should not think of putting out an acre of raspberries without taking off some other crop between the rows the first year or two, and which makes it the more difficult to get at the exact cost. The crop your Committee examined was not manured this season.

I credit the crop this year as follows:

3568 boxes at 17 cts.,		$606.56
The cost of working the crop, picking, and marketing for the present season, was as follows:		
Cultivating and hoeing,	$20.00	
Hay and mulching,	10.00	
Pruning,	12.00	
Picking and marketing, at 5 cts. per box,	178 40	
		220.40
Net profit,		$386.16

The Committee will notice that the cost of picking and marketing is just about twice as much as it would be for the same amount of strawberries.

HAVERHILL, Sept., 1881.

This certifies that I measured a piece of ground on which the above crop was raised, and found it to contain one acre and twenty-five rods. GEO. E. FARNSWORTH.

NEW VARIETY OF WINTER APPLES.

Your committee, Joseph How, John O. Brien, R. P. Waters, Aaron Low, and Paul M. Islesly were all, except Mr. Waters, present at the late exhibition at Haverhill and considered the subject of Mr. Alfred Ordway's seedling apples, the subject of which has been before the Committee for three years in view of his receiving the Society's one hundred dollar premium.

The committee were unanimous in the opinion that although the apples may be worthy of cultivation, still they are not equal to the varieties with which they are compared, viz., the Baldwin and Roxbury Russet, consequently they are not entitled to the premium.

The writer has made further inquiry about the Red Russet which has caused so much discussion, and finds much difference of opinion in regard to their value. Some persons think

them more valuable than almost any other variety; others think less favorably of them. We would therefore recommend their cultivation on different soils as they may be of more value than they are generally supposed to be.

We have also made further inquiry about the result of cross grafting and find accumulated evidence in favor of the theory.

We would therefore renewedly recommend experiments on the subject, hoping and believing that good may result from it.

JOSEPH HOW, *Chairman.*

METHUEN, Nov. 11, 1881.

TREADWELL FARM.

The lease under which the farm has been held by Mr. Thomas W. Pierce for seven years having expired on April 1st the committee made a new lease for five years to Mr. David P. Philbrick, at the rate of three hundred and fifty dollars per year with the same provisions as to the quantity of manure to be applied and general management which were in the former lease.

The Committee are pleased to report that the farm is now under better cultivation and in a better condition in every way, as they believe, than it has been since it came into the hands of the Society, with the single exception of the pastures, which are becoming somewhat foul from the spread of bushes and wood wax—which it is desirable should be eradicated. The buildings are in good condition. The annexed statement of Mr. Philbrick, of the product of the farm, shows that its capacity for crops is much larger than has generally been supposed, and places it among the best farms in the county. The experiment required by the Committee in conformity with the terms of the gift by Dr. Treadwell was in raising potatoes, and will be shown by the statement of Mr. Philbrick to have been an interesting one, which if continued on similar land

and under similar conditions next year may become an instructive one.

CHAS. P. PRESTON *for the Committee.*

STATEMENT OF MR. PHILBRICK.

Crops and Produce of the Treadwell Farm 1881, as estimated by Mr. Philbrick the lessee.

126 bbls. Apples, 206 bush. Cider Apples, 19 bush. Peas, 15 bush. Beans, 301 bush. Potatoes, 2536 lbs. Squashes, 6584 head Cabbage, 50,560 pickles, 202 boxes Strawberries, 228 bunches Asparagus, 455 bush. ears of Corn, 80 bush. Barley, 20 tons English Hay, 24 tons Meadow Hay.

Products of Pasturage,	$100 in cash.
" " Milk,	45
" " Butter,	20
	$165

Used 24 cords of Barn Manure and $140 worth of Stockbridge Fertilizer.

The following experiment in raising potatoes has been made by order of the farm committee.

The potatoes planted were all of medium size, on land of uniform condition and quality, and manured with fertilizer in a uniform manner, in five rows of 140 feet each in length, and the whole potatoes or pieces were put one foot apart in the rows.

	product,					
1st row, medium sized whole potatoes,	130	lbs.	large,	69	lbs.	small.
2d row, seed ends of potatoes,	104	"	"	32	"	"
3d row, cut to 2 eyes,	123	"	"	36	"	"
4th row, cut to 1 eye,	93	"	"	28	"	"
5th row, cut in four pieces	99	"	"	29	"	"

ESSAY.

PRINCIPLES OF BREEDING DAIRY STOCK.

BY FRANCIS GULLIVER, ANDOVER.

The milking herd of the dairy-farmer is his stock in trade, and his aim is to get in this form the best machine for converting herbage and other animal food into money. How then shall the farmer increase the qualities which afford him his profits, and how shall he maintain a high degree of excellence when it is once secured ?

In answer, a fundamental precept is this—nature through the laws of heredity or breeding, and man's skill and perseverance, combine to secure the object and qualities we need. That is, selection of parents and rearing of the young exerts an over-mastering influence on the utility of the animals composing our dairy herds.

The experience of one person in search of success furnishes but few points for comparison, and it is with the expectation, not of furnishing new material, but of giving a systematic statement of points already proved in the art of breeding that this is written.

The best years of men of genius, energy, and perseverance have been given to the successful pursuit of this eminently useful and fascinating art of breeding domestic animals. As the result of their care and success, there are now established permanent types in different improved breeds of remarkable excellence, each differing from the other in the peculiar adaptation to special conditions and purposes.

Governing success in this undertaking three laws are prominent on first examination. 1st, The offspring may be of corresponding quality with its parents, called *law of similarity;* or, 2d, They may vary from either and exhibit characteristics superior or inferior, called the *law of variation;* or, 3d, The

young may resemble neither parent but revert to an ancestral type, as grand parent, &c., called the *law of reversions*, or, from Latin *atavus*, and ancestor, *atavism*.

Analysis of causes which determined the probable quality of the young animal shows seven or more powerful influences in action.

1st. The young may resemble both parents equally; 2d, Or one of the parents particularly, and the likeness may be in the same sex or the opposite. 3d, The resemblance may revert to grandparents or other ancestors,—*atavism*. This is recognized by breeders under a variety of names, as "throwing back," "crying back," "breeding back," &c., and is one of the most influential laws of heredity. It is estimated to occur at the rate of about three cases in ten. 4th, There may be collateral resemblance to uncle, aunt, &c., that is to other issue of the grandparents besides the actual parent of the individual affected. 5th, The tendency to keep the average of the sexes equal, termed *coequal heredity*. 6th, The influence of previous impregnation may appear in the resemblance of the young, not to its own sire but to the male that first had fruitful intercourse with its dam, or the one by which she last produced offspring. 7th, The influence of temporary conditions in either or both parents at the time of conception, called *initial heredity*.

To these may be added others, among them the condition and vigor of the dam during the period of pregnancy, and the care and food of the young from birth till it has arrived at an age for profit.

We need not set ourselves to originate a type, or create, or fix qualities suitable for our purpose. The materials are ready at our hand as the result of others' expenditure and toil, and from these we select.

Here appears a great obstacle to general progress—there are not enough thoroughbred animals to go around, and however much each one may wish to possess them all our dairy cows cannot be of pure blood. How, then, can the benefit be

derived from the wonderful successes of breeders up to this time.

In answer to this the unanimous reply of successful farmers is that the introduction of improved blood through the use of thoroughbred males as sires of the future members of the dairy herd is a simple, successful, wise, and economical method.

It is evident that where a particular form of animal product is the object sought, the greater value will be placed upon the animal that excels in its production. Excellence in other directions may be desirable, but it will not compensate for a deficiency in the special qualities required. Among several breeds of similar qualities your choice may be guided by considering *the adaptation to the situation* in which you will place them.

Has your soil capacity to carry large, heavy feeders,—or, if for them, an addition of more and richer food is required, would the same material produce a greater income from a smaller and more active race. In this connection it should be borne in mind that if too large animals be brought in, they not only *tend to diminish* toward the size suitable for the locality but *to deteriorate;* while if a smaller be brought in they will *enlarge and improve.*

Milk production for butter making, or for sale by measure, or for cheese making are the different objects in selecting for a dairy of one kind or another. So make your choice from the best obtainable males, the characteristics of whose breed are such as to most perfectly fill your conditions, to introduce, or if the required quality is already present, to perpetuate and perfect that quality.

In calculating the proportion of credit to which the bull is entitled a half is usually granted. In some instances it seems to be his influence *almost entirely* that moulds the characteristics of the young. Is he not then worthy a tythe of the care bestowed upon the selection and purchase of females? If a good bull doubles the value or adds only a third to the

value of twenty calves a year, but little business sagacity is requisite to discover the advantageous form of such an investment.

The power to impress his likeness and quality on the offspring is called *prepotency*, and is the assertion of strong blood of pure ancestry over mixed blood and irregular disposition of animals of indiscriminate breeding.

Form, color, habits, mental traits, or predisposition to disease may make its appearance in the offspring without having been observed in the parents. Agassiz remarked in this connection that the young are the offspring not only of the parents, but of the grandparents as well, and he might have gone further still. Goodale describes an occurrence in point. At a farm in the State of Maine where polled or hornless cattle were kept, and finally the last individual bearing the polled head was shot by mistake for a bear by Mr. Wingate, the owner of the farm. For thirty-five years all cattle owned there were horned, then there was dropped an animal which grew up polled and had all the characteristics of the original breed.

Many instances might be added to show the potency of a pure breed to assert itself. Prof. L. B. Arnold holds that the longer qualities have been possessed and transmitted the more potent are they in their transmission, and that in taxing a sire so that his own personality cannot be clearly stamped, the ancestral quality will be conferred so long as vitality is communicated, and the lower the vitality the more primitive or strongest of continuously transmitted qualities will be imparted.

To take advantage of a knowledge of Nature's methods, we must use a sire whose ancestors were all as good as he is and then whether offspring breed after their own sire or his ancestors you are equally sure of excellence.

"Grasp and render permanent, and increase as far as possible and practicable, every variation for the better and reject for breeding purposes such as show a downward tendency."

Here appears the utility of records and pedigree,. for what we seek is called *a thorough-bred.*

But your success depends to some extent still on circumstances within your direction.

1st. Let the females be of such a type as to "hit off" well with your selected male and develop similar qualities, since this would apply the law that a characteristic prominent in both male and female parent will be concentrated in the young. Secure this harmonious character by judicious purchase or exchange if possible, for contrast of character produces disappointment.

2d. The male should have *prepotency* or governing influence,—that is the ability of a sire to reproduce his likeness in his offspring, or the original power of influence.

This you must look for in "high blood," and that is hand in hand with purity of pedigree.

3d. Uniform excellence of ancestors should be sought, since the quality of offspring is largely governed by the long and successful transmission of peculiar qualifications from progenitors one to another; in other words, by a concentration of fixed qualities through continued descent from those possessing high qualities.

And here the dairy farmer is exactly on the same ground as the breeder of thoroughbred stock. Each must use *the best obtainable sire* for propagation. This is the mode of improving such stock as needs improvement, and the only means by which stock already good can be preserved in its excellence.

Other points of importance space will not permit me to discuss here at length, such as fixing the heifer's habit of full and continuous flow of milk; the importance of having the heifer first come in calf, to the best bull obtainable; efforts to control the sex of expected offspring; the time of year for most profitable calving; relative influence of parents, blood being equal; hereditary disease; defective nutrition the cause of disease; stabling, care, feed; overtaxing of young bulls and killing of old ones just when their produce can prove their value; the delusive and ruinous practice of breeding for the color of the animal rather than useful qualities.

The successful breeder has a problem with numerous elements before him.

In conclusion, let me add in regard to cross bred animals or grades,—the first cross is likely to produce animals of great excellence. But do not be misled. If you then pair or breed these together you go off into the tangled maze of intermingled blood the combinations of which you cannot certainly forecast. The defects of one breed or the incongruities of both are perpetually breaking out.

It is true that close breeding and in-and-in breeding have been the method of perpetuating and intensifying the qualities of our improved breeds, and prove successful with established blood. But between grades themselves experience shows it should be scrupulously avoided.

Procure another thoroughbred sire by purchase or exchange whose excellencies shall correct and over balance defects existing in spite of your care with previous coupling. So proceed studying your females and selecting the bull so far as constantly to approach nearer the fixed model set up for yourself.

Weed out and discard for breeding uses those that fail to possess the desired points, and preserve with greatest care the true breeders of the herd.

Thus we find that the breeding of dairy stock include

1st. A man with persistence of purpose and judgment to know when he is going right and when wrong.

2d. A dairy herd so selected as to be possessed of a similarity of desirable characteristics with those sought by the breeder.

3d. The use of a prepotent sire with ancestry that all possessed the characteristics and conformation it is desired to reproduce.

4th.

What's worth good breeding
Is worth good feeding.

ESSAYS AND REPORTS.

The Committee on Essays and Farm Accounts would report that only two essays were offered for premium—one upon "Principles of Breeding Dairy Stock" and the other upon "Puerperal, or Milk Fever." Both essays were well written and expressed, and both appeared to indicate familiarity with the respective subjects. The Committee made up, as it is, chiefly of members not personally and practically having a knowledge of the topics treated, often have serious doubts of their own qualification for passing judgment upon every point necessary to the creation of a really meritorious essay. And for the same reason it is not easy for them to know how far the treatise upon a subject may be borrowed from acknowledged authorities, or be the result of actual experiment and personal knowledge. The Committee, upon the whole, acting upon the best judgment they were able to exercise, concluded to award but one premium, and that the first ($15) to Francis Gulliver, of Andover, for his essay upon the "Principles of Breeding Dairy Stock."

For reports, the Committee award the first premium of $10 to Albert Berry, of North Andover, for his report on sheep; the second of $8, to J. J. H. Gregory, of Marblehead, for his report on flowers; and the third of $6, to Daniel A. Carlton, of North Andover, for his report on steers.

Nath'l A. Horton, Daniel E. Safford, Charles P. Preston, N. M. Hawkes.—*Committee.*

Dr. EDWARD H. PAYSON, TREAS., IN ACC'T WITH THE ESSEX AG. SOCIETY, Cr.

1880.				1880.		
October.	To balance of former account rendered,	$425 76		October.	By Amount of Premiums and Gratuities awarded by the Trustees,	$1844 75
	To Bank Dividends in October,	421 35			By Expenses of Exhibition at Lynn paid by Committee, $1592 36	
	To State Bounty,	600 00			By Expenses of Exhibtion at Lynn paid by Treasurer, 164 42	
	To Amount of receipts at Fair in Lynn per account of Committee,	1612 80				1756 78
1881				1881.		
January.	To State tax refunded on Bank Stock,	185 60		Nov.	By General expenses for the year, viz.:—	
	To Proceeds of sale of $700, Essex R. R. Bonds,	728 00			Treadwell Farm, 203 58	
	To Interest Essex R. R. Bonds,	21 20			Printing, 396 60	
April.	To Bank Dividends in April,	393 10			Secretary's account, 264.40	
	To Amount received from new members,	126 00			Rent to Athenæum, 25.00	
	To Amount of unclaimed premiums,	79 75			Alley's Premiums of 1879, paid by order of Trustees 69.00	
					Miscellaneous, 14.45	
						973 03
					To Balance to new account,	19 00
		4593 56				$4593 56

FUNDS BELONGING TO THE SOCIETY, OCTOBER, 1881.

		Market Value.
10 shares in Nat. Hide and Leather Bank, Boston cost,	1101 87	1150 00
5 shares in First National Bank, Danvers, par.,	375 00	500 00
16 shares in Warren National Bank, Peabody, cost,	1595 40	2400 00
8 shares in National Exchange Bank, Salem, par,	800 00	960 00
18 shares in First National Salem, cost,	1914 66	2160 00
12 shares in Mercantile National Bank, Salem, cost.	1226 50	1440 00
23 shares in Merchants' National Bank, Salem, cost,	1189 50	1495 00
15 shares in South Danvers National Bank, cost,	1471 25	2175 00
3 shares in National Revere Bank, Boston, cost,	377 62	360 00
42 shares in Asiatic National Bank, Salem cost,	1281 25	1890 00
18 shares Salem National Bank, Salem,	2000 00	2160 00
Cash on hand as above,	19 00	
	13,352 05	16,690 00
Funds reported previous year,	14,458 81	
Decrease,	1,106 76	

EDWARD H. PAYSON, Treasurer,

SALEM, Dec. 27th, 1881.

The undersigned have examined the foregoing account and find the same to be correct and properly vouched, and we have also examined the securities and find them to be correct.

JOS. H. PHIPPEN, } Auditors.
G. L. STREETER, }

OFFICERS OF THE SOCIETY

FOR 1881-82.

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THOMAS C. THURLOW, of West Newbury.
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E. G. Dole, Salisbury.
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Chas. H. Gould, Danvers.
Geo. W. Gage, Methuen.
John J. Gould, Ipswich.
Edw'd Harrington, Groveland.
George L. Hawkes, Lynnfield.
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Salmon D. Hood, Topsfield.
Samuel Hawkes, Saugus.
Thomas Hale, Rowley.
Jas. T. Johnson, No. Andover.
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Aaron Low, Essex.
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Chas. Perley, Boxford.
John P. Palmer, Swampscott.
Chas. W. Shattuck, Lawrence.
David Stiles, Middleton.
John L. Shorey, Lynn.
Geo. W. Wonson, Gloucester.
Horace C. Ware, Salem,
Richard Webster, Haverhill.

NEW MEMBERS—1881.

Geo. W. Adams, Newbury.
Benj. D. Appleton, Beverly.
J. K. Bancroft, Lynnfield.
L. H. Bailey, W. Newbury.
M. W. Bartlett, W. Newbury.
Lewis Brown, Peabody.
Benj. J. Berry, Lynn.
Henry N. Berry, Lynn.
George Clark, Beverly.
James Davis, Haverhill.
John Q. Evans, Salisbury.
Mrs. B. H. Farnham, N. Andover.
J. Ralph Farnham, N. Andover.
F. H. Gowen, W. Newbury.
A. C. Hill, Saugus.
Ralph C. Huse, Georgetown.
Martin L. Hoyt, Georgetown.
Peter Holt, Jr., N. Andover.
Franklin Knowlton, Hamilton.
Willard F. Kinsman, Ipswich.
N. Tenney Kimball, Bradford.
Albert H. Knight, Bradford.
Hector Little, Newburyport.
J. B. P. Ladd, Groveland.
N. Longfellow, Groveland.
T. W. Lane, Amesbury.
Fred'k S. Moseley, Newb'y't.
C. N. Maguire, W. Newbury.
Nath'l Marble, Georgetown.
Henry P. Noyes, Georgetown.
Frank Newhall, Lynnfield.
J. B. Nichols, Haverhill.
Lyman Osborn, Peabody.
Jas. O. Parker, Methuen.
Chas. H. Poor, Bradford.
S. J. Pedlar, Methuen.
Daniel S. Russell, Ipswich.
Aaron A. Rutherford, Ipswich.
Amos Ridley, Georgetown.
W. R. Roundy, Lynnfield.
Jacob C. Rogers, Peabody.
Oliver Stevens, N. Andover.
Geo. S. Smith, Haverhill.
Seth Stockbridge, Rowley.
Mrs. L. P. Weston, Danvers.
Robert C. Ware, Marblehead.

LIST OF PREMIUMS.

FAT CATTLE.

Joseph Newell, West Newbury, Fat Cattle, 1st premium,	$12 00
S. & N. Longfellow, Groveland, Steers, 2d premium,	10 00
Thos. G. Ordway, West Newbury, Cattle, 3d premium,	6 00

BULLS.

Eben Sutton, No. Andover, Short Horn Bull, 1st premium,	10 00
C. S. Bradley, West Newbury, Shorn Horn Bull, 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein with five of his stock, 1st premium,	15 00
Wm. A. Russell, Lawrence, Holstein, 3 years old, 1st premium,	10 00
Richard Newell, W. Newbury, Jersey 2 years old, 1st premium,	10 00
G. W. Russell, Lawrence, Jersey 2 years old, 2d premium,	6 00
C. S. Bradley, W. Newbury, Jersey under 2 yrs. old, 2d premium,	4 00
J. D. W. French, No. Andover, Ayrshire under 2 years old, 1st premium,	6 00

MILCH COWS.

Wm. A. Russell, Lawrence, Milch Cow, special premium,	25 00
H. G. Herrick, Lawrence, Milch Cow of any breed, 1st premium,	12 00
John M. Barry, Haverhill, do., do., 2d premium,	6 00
J. D. W. French, No. Andover, do., Thorough-bred Ayrshire, "Nina Lyman," 1st premium,	12 00
J. D. W. French, No. Andover, do. do., "Roxana," 2d premium,	6 00
Wm. A. Russell, Lawrence, do. do., Holstein, "Maud Clay," 1st premium,	12 00
Wm. A. Russell, Lawrence, do. do., do., "Maid Fairfax," 2d premium,	6 00
Wm. A. Russell, Lawrence, do., grade, "Bessie," 1st premium,	12 00
Nathan Priest, Haverhill, do. do., 2d premium,	6 00

HERD OF MILCH COWS.

Wm. A. Russell, Lawrence, 1st premium,	$18 00
C. S. Bradley, West Newbury, gratuity,	12 00
Thomas Sanders, Haverhill, 3d premium,	10 00

HEIFERS, FIRST CLASS.

J. D. W. French, No. Andover, Ayrshire (Milch), "Jennie Douglass," 1st premium,	12 00
J. D. W. French, No. Andover, do., do., "Modesty 4th," 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein, do., "Lady Bess" 1st premium,	12 00
Wm. A. Russell, Lawrence, do., do., "Siresa," 2d premium,	6 00
J. D. W. French, No. Andover, Ayrshire yearling, "Modesty 5th," 1st premium,	6 00
J. D. W. French, No. Andover, do. do., "Ruby Hebron," 2d premium,	5 00
J. D. W. French, North Andover, do., calf, 1st premium,	5 00
Richard Newell, West Newbury, Jersey Heifer, 1st premium,	6 00
Richard Newell, West Newbury, Jersey Heifer, 2d premium,	4 00
C. S. Bradley, West Newbury, Short Horn, 1st premium,	6 00
C. S. Bradley, West Newbury, Short Horn, 2d premium,	4 00
C. S. Bradley, West Newbury, do. calf, 1st premium,	5 00
C. S. Bradley, West Newbury, do., 2d premium,	3 00
Wm. A. Russell, Lawrence, Holstein Yearling, 1st premium,	6 00
Wm. A. Russell, Lawrence, Holstein Yearling, 2d premium,	4 00
Wm. A. Russell, Lawrence, Calf, 1st premium,	5 00
Wm. A. Russell, Lawrence, Calf, 2d premium,	3 00
Amos Ridley, Georgetown, Heifer 2 years old, 1st premium,	6 00

HEIFERS, SECOND CLASS.

L. H. Balley, West Newbury, Milch Heifer, 1st premium,	12 00
G. W. Duncan, Haverhill, Milch Heifer, 2d premium,	6 00
J. H. Davis, N. Andover, Heifer over 1 yr., not calved, 1st premium,	6 00
Amos Ridley, Georgetown, do., 2d premium,	4 00

WORKING OXEN AND STEERS.

T. G. Ordway, West Newbury, oxen, 1st premium,	12 00
James Reynolds, No. Andover, oxen, 2d premium,	10 00
B. H. Farnum, North Andover, oxen, 3d premium,	8 00
Town of No. Andover, steers, 1st premium,	10 00
Chas. J. Peabody, Topsfield, steers, 2d premium,	6 00

TOWN TEAMS.

Town Team of No. Andover, 19 pairs of horses, 1st premium,	30 00
Town Team of No. Andover, 19 pairs of oxen, 1st premium,	30 00

STEERS.

Benj. & Ralph Farnum, North Andover, 3 year old steers, 1st premium,	8 00
Moses T. Stevens, No. Andover, 2 year old steers, 1st premium,	6 00
Byron Farnum, No. Andover, 2 year old steers, 2d premium,	5 00
S. & N. Longfellow, Groveland, yearling steers, 1st premium,	5 00
J. Ralph Farnum, No. Andover, yearling steers, 2d premium,	4 00
R. S. Bray, Newbury, steer calves, 1st premium,	4 00

BROOD MARES.

Thomas Sanders, Haverhill, 1st premium,	15 00
Peter Holt, Jr., No. Andover, 2d premium,	10 00
J. B. Nichols, Haverhill, 3d premium,	8 00

FAMILY HORSES.

B. H. Farnum, No. Andover, 1st premium,	15 00
Thomas Sanders, Haverhill, 2d premium,	10 00
Thomas R. Osborn, West Newbury, 3d premium,	8 00

FARM AND DRAFT HORSES.

A. D. Ordway, Newburyport, 1st premium,	15 00
J. H. Butters, Methuen, 2d premium,	12 00
Aaron Low, Essex, 3d premium,	10 00
T. O. Wardwell, No. Andover, 4th premium,	6 00

PAIRS OF DRAFT HORSES.

Edward P. Perley, Danvers, 1st premium,	15 00
Edward Adams, No. Andover, 2d premium,	10 00
Oliver Stevens, No. Andover, 3d premium,	5 00

COLTS, FIRST CLASS.

Goodwin Bros., Lawrence, 4 year old, 1st premium,	12 00
Wm. J. Dale, Jr., No. Andover, 4 year old, 2d premium,	8 00
Peter Holt, Jr., No. Andover, 4 year old, 3d premium,	5 00
A. P. Johnson, Bradford, 3 year old, 1st premium,	10 00
Dan'l. G. Todd, Rowley, 3 year old, 2d premium,	5 00

COLTS, SECOND CLASS.

Thomas Sanders, Haverhill, 2 year old, 1st premium,	8 00
Albert C. Heath, Haverhill, 2 year old, 2d premium,	5 00
Romulus Jaques, West Newbury, yearling, 1st premium,	6 00
Albert C. Heath, Haverhill, yearling, 2d premium,	4 00

SWINE, FIRST CLASS.

Danvers Lunatic Hospital, by S. S. Pratt, boar, 1st premium,	10 00
Eben Sutton, No. Andover, boar, 2d, premium,	6 00
Danvers Lunatic Hospital, breeding sow, 1st premium,	10 00
Rufus Goodwin, Haverhill, breeding sow, 2d premium,	6 00

SWINE, SECOND CLASS.

Alfred M. Trask, Danvers, boar, 1st premium,	10 00
Chas. H. Poor, Bradford, boar, 2d premium,	6 00
Alfred M. Trask, Danvers, breeding sow, 1st premium,	10 00
Chas. H. Poor, Bradford, breeding sow, 2d premium,	6 00
Alfred M. Trask, Danvers, weaned pigs, 1st premium,	10 00

SHEEP.

Eben Sutton, No. Andover, buck, 1st premium,	8 00
Charles Perley, Boxford, flock of ewes, 1st premium,	10 00
Charles Perley, Boxford, flock of lambs, 1st premium,	4 00

PLOUGHING, DOUBLE TEAMS.

Joseph Goodrich, West Newbury, 1st premium,	12 00
Charles A. Butterfield, No. Andover, 2d premium,	10 00
B. H. Farnum, No. Andover, 3d premium,	9 00
Theron Johnson, and Eben Sutton, No. Andover, 4th premium,	8 00

PLOUGHING, SINGLE TEAMS.

Thomas G. Ordway, West Newbury, 1st premium,	10 00

PLOUGHING WITH TWO HORSES.

Ansel W. Putnam, Danvers, 1st premium,	12 00
R. S. Bray, Newbury, 2d premium,	10 00
Asa T. Newhall, Newburyport, 3d premium,	8 00
Moses H. Poor, West Newbury, 4th premium,	6 00
Chas. N. Maguire, West Newbury, 5th premium,	4 00

PLOUGHING WITH THREE OR MORE HORSES.

Jeremiah Cashman, Newburyport, Gratuity	5 00

PLOUGHING WITH SWIVEL PLOUGH.

Edward P. Perley, Danvers, horses, 1st premium,	10 00
Oliver Stevens, No. Andover, horses, 2d premium,	9 00
Chas. Haseltine, Bradford, oxen, 1st premium,	12 00
Wm. A. Russell, No. Andover, oxen, 2d premium,	10 00

GRAIN CROPS.

Chas. W. Adams, Newbury, corn crop, 1st premium,	10 00
Chas. W. Adams, Newbury, wheat crop, 1st premium,	10 00
Richard Newell, West Newbury, rye crop, 1st premium,	10 00
Wm. W. Perkins, Newbury, grass crop, 1st premium,	10 00
B. F. Huntington, Amesbury, strawberrry crop, 1st premium,	10 00
Henry K. West, Haverhill, raspberry crop, 1st premium,	10 00
Albert Berry, No. Andover, report on Sheep, 1st premium,	10 00
J. J. H. Gregory, Marblehead, report on Flowers, 2d premium,	8 00
Daniel A. Carlton, N. Andover, report on Steers, 3d premium,	6 00
Francis Gulliver, Andover, Essay on Breeding Dairy Stock, 1st premium,	15 00
Awarded by Committee on Poultry,	59 50
" " " Agricultural Implements,	60 00
" " " Carriages,	20 00
" " " Butter and Milk,	53 00
" " " Bread, Honey, &c.,	24 00
" " " Fruit,	273 00
" " " Flowers,	48 00
" " " Vegetables,	138 00
" " " Counterpanes, &c.,	29 50
" " " Articles manufact'd from Leather,	30 00
" " " Manufactures and Merchandise,	23 50
" " " Fancy Work, &c.,	47 00
" " " Children's Work,	15 50
	$1852 52

RECAPITULATION.

FARMS.

Amount awarded to Ploughing,			$132 00

FARM STOCK.

Amount awarded to		Fat Cattle,	28 00	
"	"	Bulls,	67 00	
"	"	Milch Cows,	97 00	
"	"	Herd of Milch Cows,	40 00	
"	"	Heifers,	132 00	
"	"	Working Oxen,	46 00	
"	"	Town Teams,	60 00	
"	"	Steers,	32 00	
"	"	Horses,	139 00	
"	"	Colts,	63 00	
"	"	Swine,	74 00	
"	"	Sheep,	22 00	
"	"	Poultry,	59 50	
				$859 50

FARM PRODUCTS.

Amount awarded to		Grain Crops,	40 00	
"	"	Dairy,	53 00	
"	"	Bread, etc.,	24 00	
"	"	Fruits,	273 00	
"	"	Flowers,	48 00	
"	"	Vegetables,	138 00	
"	"	Small Fruits,	20 00	
				596 00
All other objects,				264 50
Total,				$1852 00

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TRANSACTIONS

OF THE

Essex Agricultural Society,

IN MASSACHUSETTS,

FOR THE YEAR 1882,

WITH THE

SIXTIETH ANNUAL ADDRESS,

BY

FRANCIS H. APPLETON,

OF PEABODY.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.,

OBSERVER STEAM PRINTING ESTABLISHMENT.

1882.

AN ADDRESS

BY

FRANCIS H. APPLETON,

OF PEABODY,

DELIVERED BEFORE THE

ESSEX AGRICULTURAL SOCIETY,

AT HAVERHILL,

WEDNESDAY, SEPTEMBER 27, 1882.

ADDRESS.

Mr. President and Members of the Essex Agricultural Society:—

Our Board of Trustees having invited me to address you to-day, I have chosen subjects which relate to what I deem of value to ourselves as farmers, and to the welfare of this Society, which has served us faithfully for many years, and have realized fully the honor that is conferred upon me, in being allowed to address a representative body from all parts of the county, owners of the foundation land upon which all other industries must rest and depend. While this is the sixtieth annual address, our present show is the sixty-second. Previous shows have been held at the following places, as nearly as I can ascertain :—

Ten times at Danvers, seven at Lawrence, six each, at Lynn, Topsfield, and Haverhill, five at Georgetown, four each, at Gloucester and Newburyport, three each at Andover, Ipswich and Salem, two at South Danvers (now Peabody), one at Newbury, and as to two, I am in doubt.

LABOR.

There is one point that I would briefly refer to and of which we must ever be mindful, namely:—that an all important part of the basis of farming is honorable and healthful labor, and unless the farmer, or his foreman, is capable of doing any and all such work that may be required in the conduct of his farm-

ing operations, these will surely fall far short of that success which is possible and desired. And again, that the more intelligence that is put into manual labor, either in its direction, or in its performance, so much more will be accomplished, and with a decreasing proportion of exhaustion to the muscles.

In extensive farming operations, where much work is done, and many workmen employed, the head farmer, while he must have had full experience as a farm worker and understand its requirements fully, has little opportunity to do more than observe and direct the whole, from the first preparation until the consumption, or sale, of the crops. Such experience is necessary also to enable him to deal justly by his help and expect all, but no more, than is reasonably possible of a faithful worker, while he urges on the more tardy.

A great trouble that farmers have to contendwith, and one which is greater than it at first seems, is that labor cannot be easily secured by the day for a part of the season. There are times when we should like extra help for a few weeks during periods of planting and harvesting, and when it would be greatly to our advantage could we hasten such work by securing more extra labor than our localities often can supply. Our planting is the better in proportion to the quickness with which we can get our crops into the ground, from the time of first stirring it to the time of getting the seed covered.

It is not good economy to direct too few men at any one time. It would be best to complete the planting and harvesting as quickly as possible with extra help and not let it drag along; and consume the intervening time in tilling and tending the crops, and making improvements with the regular force on the farm. Would it not be advisable on the score of health for men, whose regular employment is not on the farm, but in its

neighborhood, to endeavor to make such arrangements that they can devote themselves to out-door work at the season when farmers need the extra help I have named; and could not such be arranged between employer and employed in the localities referred to.

The ability to organize and direct a considerable number of men is one of the most valuable acquisitions that an individual can have, and he who posseses it should use it to his profit on his farm by employing as many men as shall tax its resources to their full extent. Under such circumstances and where enough extra farm help cannot be had as has been suggested, the better class of agricultural farm laborers landing upon our shores, if secured before the desire to "go west" has taken too deep a hold, must certainly be capable of affording us valuable aid in promoting our farming business. This course would be far from good advice when labor can be found within reach of our homes, capable and ready to fill our requirements.

The reason that I so early refer to this subject grows out of the importance that I would place upon it. The false ideas that get possession of the minds of too many persons, both men and women, upon the subject of labor is most unfortunate. I suppose it grows out of the fact that in certain foreign countries those who do perform most of the labor form a class by themselves and are there doomed, with their descendants, to continue laborers through successive generations because it is the plan of their governments to confine their education to a low level. This foreign class emigrate largely to this country to reap the benefits of our liberal, christian system of government and education. The example of this element in our community and a wish not to be like them combined with some course of imperfect reasoning,—must be why labor is foolishly regarded by some people as beneath them.

Not only this, but to secure the most healthful condition of either body or mind as far as is possible neither should be developed independently of the other. Many parents seem to be over-ambitious in educating their children, so that when they are grown up they find themselves unsuited to the positions they are called upon to fill. Dissatisfaction and an unwillingness, or inability, to turn their hand readily to simple work, is too often the result.

Exercise is a necessary part of education and learning as well as being necessary to preserve the health of all those persons, whose occupations are of a more sedentary character. What better place than the farm to secure it.

But fortunately it is not in labor alone that we see the work of our farms accomplished, for our great support is in the most approved labor-saving, labor-economizing, machinery in its most practical form; but none of this machinery is entirely automatic, it can never dispense with labor, but it increases the demand for *intelligent* labor. It greatly relieves the fatigue of body, and elevates the farmer as a man, and tends towards improving the mind,by leading him to a consideration of the many mechanical principles involved in the construction and working of his implements, as well as compelling a more thoughtful consideration as to the courses of cultivation, and care of animals and crops.

PRACTICAL EXPERIENCE.

During the time that I have been a farmer it has been my aim, with partial success, to avoid the extravagances that frequently give the name of "fancy-farmer," but which seem to be an unavoidable part of the line of experience that is the lot of those who have not passed their student days on the farm.

But it is not infrequently that these too-dearly-bought experiences have some instructive value, which at times can be placed under the head of useful experiments. Those living near the " fancy-farmer, " can often derive many ideas that prove of value, although the piece of work which originated them may have been an extravagance. He is generally ready to give his experience to the public, and to let them have the chance of profiting by them.

Would that more of the thorough farmers of our county could be induced to take up their pens and put on paper their valuable experiences, and some of what can be called gilt-edged knowledge, for the benefit and enlightenment of the public, through the medium of our Transactions.

I am sure that much remains unwritten and which lies hidden in the brains of those whose lives have been given up to experience and observation on the farm, that ought to be recorded for our general use, instruction and advancement, and which would thus add to that store of book-learning, which everyone now recognizes as a great help in our direction and planning of farm work. For those who do not care to write of their own experiences we herein have a pleasant and most interesting work for the younger members of the farmer's family, whose capability for such is the result of their work at school. Let them join with their father, who does not care to be a writer but will encourage his children in so doing, in pleasant intercourse to accomplish the results I have suggested, in their hours of rest and quiet. Let them make written notes of their Father's reminiscences, enlarged as their interest leads them to make enquiries, and select whatever their liberal judgment tells them will be of general value for practical use, or historical record. They must remember that facts, which

may result in the ordinary course of *their* lives and which seem at first of no value to others, might by a thoughtful perusal as to the circumstances attending their creation, be shown to afford subjects for a number of interesting and useful Essays or Reports. Would that this suggestion might be an inducement to more numerous members, selected as chairmen of our Committees, to write Reports for our annual Transactions upon the subjects committed to their charge, as well as to enter the lists as competitors for Essay prizes, letting a patriotic love for our Society spur them to make an effort in this direction, if such is necessary.

FARMERS' TRIALS.

While remembering the many attractions of country life during the several months of the year and the bountiful gifts that Mother earth yields to us, we are reminded of some of the trials that beset us in our lives, and vocation, as farmers, and as prominently as anything, perhaps, are our excessive droughts during parts of July and August. With the best preparation, manuring and care in our management, we are doomed to much and in some cases almost total loss, from this great evil, and the hardships it forces upon the farmer are indeed cause for depression of spirits, were not the farmers' temperaments generally such as to lead them to hope for better results the next year.

Seasons of drought, we are told, encourage the increase of insects injurious to vegetation, and this should be reduced to the least possible limit that we, with the help of intelligence and information, can effect. Can we prevent a naturally moist soil from becoming a dry one, can we conduct water on to our lands to help us. Can not farmers adopt the prevailing am-

bition of city people for a water supply in a *cheaper way* on our lands that have natural or artificial drainage for use in irrigating our crops? And in this line I propose to ask your attention; but first reminding you of that far-reaching and lasting remedy now urged by nation, state and individuals, namely the promotion, and increasing, of our forests, all over the country, as the preservers and increasers of all the present water-supplies, which are to-day, and must for all future time be looked to as the sources for domestic, mechanical, fire and farming purposes. The forest is the home of our springs, be they on the more distant mountains or hills, or on the lower land. Herein we see sufficient reason for doing all that is possible to encourage every effort to build up a forest industry which is capable of giving an increased field for the profitable employment of intelligent labor.

IRRIGATION.

I have long thought that the subject of irrigation was one which deserved the thoughtful consideration of our farmers, and some may smile, thinking of the large burdens of debt weighing upon many cities from the introduction of water-works. But do not let this frighten you.

Let me tell you the opinions of Captain John B. Moore, of Concord, upon this subject in his words taken from a discussion at the Massachusetts Horticultural Society's rooms, in Boston, and let me add that Mr. Moore raises successfully almost everything he undertakes. He said that he had studied the subject carefully, and if there was anything that he was proud of, it was his success in irrigation and drainage. "The natural way of watering is by rain, and no one has yet improved on it. He had used water for artificial irrigation for two

or three years, and by means of it had made light, sandy loam productive, and succeeded in raising pears where he supposed it was impossible to grow them. Now that he has got water he needs manure. It is injurious to apply water in large quantities without drainage." (Many uplands are naturally drained sufficiently.) Referring to a crop of peas he says "they must have plenty of manure as well as water. He did not think it would pay to use water at the rate of twenty-five cents for a thousand gallons. He gets his supply from the Concord water-works, which have a hundred feet head. The Water Board can furnish water at low rates, and are ready to make liberal terms." "He did not believe it would pay to use water through a meter." The water-works in Arlington and Winchester are also drawn upon for purposes of irrigation.

I am led to refer to this subject as drought seems to me to be one of the worst, if not the worst, enemy, that we New Englanders, and others, have to contend with. Where our crops are not almost killed by drought, they are diminished so greatly according to location, that our loss is everywhere, but only in a varying degree. After having passed much time in maturing our plans for the season's work; after having given much time, labor and money to preparing our manure heaps, adapted to the requirements of our different crops, and have prepared, planted and cultivated the latter, is it not truly discouraging, indeed is it not truly a sad sight to see the results being burned up, or very greatly diminished, by excessive droughts?

Fortunately the farmer is not so easily discouraged, as one might infer from my picture; and the knowledge of the many blessings that the farm affords, with its independent, yet responsible life, tide over all disappointments as to small crops,

with hope for the future. But if the water supply can be had and labor, to irrigate, *that* will undoubtedly be the means of saving and increasing the quantity of our crops, and the dollars in our pockets ; and I believe that the physical labor on such a farm would be somewhat lessened to the owners, while intelligence would be more in demand.

Drought is what stops all beneficial effects from a good and pure fertilizer, and puts it under such circumstances on a par with a poor article, because it cannot be absorbed by the plant unless held in solution, and because it must have moisture to hold it in solution. In seasons of drought a good and pure fertilizer must fail to meet the needs of farmers, but with irrigation or in a favorable season both barnyard manure and fertilizer serve us to the extent of their capabilities. Such difficulties and uncertainties as these, place doubt in the farmer's mind as to the words of truth received from the chemist, without whose knowledge and investigation we could not progress.

We need water, and to have our work so arranged as to cover the least possible ground; we are too generally spreading our manure and labor too thinly over our land; or have not a sufficient amount of manure for the land under cultivation. With irrigation we could use a large quantity of pure fertilizers profitably, and thus better supplement our manure heap. Would it not be wiser to make one's principles of farming conform more to the general rules applied to market gardening; so far at least as aiming to increase the amount of the crops per acre by manuring more heavily, planting more thickly and tending more carefully. And let me be understood as including fruit, on tree or bush, under the head of crops.

The farmers of Arlington and Concord, I understand, were among the first and the most desirous in their respective

towns, to seek the introduction of a water-supply, because they saw the increased profits from their land in its future use. Mr. Moore's words which I have quoted are proof of the realization of their hopes.

I believe that on many farms a few acres could be profitably treated by irrigation, using wind-mill power, if not steam, laying 1 1-2 in. or 1 1-4 in. pipe judiciously under ground and having faucets for 1 1-4 hose placed over the land at proper intervals. This land to be used more as a market-garden, with heavy manuring, careful and intelligent culture, and certainty of large yields, letting the remainder of the farm be cultivated in the best manner possible without such works. A visit to the gardens of Arlington and Concord would be valuable and interesting. I find the following facts stated in a recent number of the *Salem Gazette*, and taken from the *Newburyport Herald*:

"A truck farm in Merrimac, has, to a large extent, escaped loss from the long drought by the running of an iron pipe from the river, a distance of about a mile and a half, into which water is forced by a steam pump, and distributed over the premises by sprinklers, supplied in all directions. This precaution against a loss of growing crops by drought has been very largely successful, amply repaying the outlay. The apparatus will be on hand for future use when required."

It can be borne in mind that where several farmers might decide to unite in introducing a small water supply for irrigation on neighboring farms, and who have no public supply in their vicinity nor one where they can secure reasonable rates for their purposes, that water containing the most vegetable matter in suspension and salts in solution, that is water unfit to drink, may be more valuable for their purposes than water that is purest and most satisfactory for domestic

uses. It would be good policy for towns and cities to allow farmers the use of water from public works and at low rates within prescribed limits, provided that the source of supply was sufficient. It would tend to increase business and advance prosperity among those who deserve and often need it.

Wind-mills are the cheapest source of supply, drawing from streams, ponds, open or driven wells, where a smaller surface is to be irrigated and large storage basins can be located on a neighboring hill with suitable head, or in tanks; but, under other circumstances, the steam-pump can always be depended upon, and requires no storage basin; and while the first cost of this is perhaps greater than the wind-mill, the results are very far ahead. In Holland large wind-mills are in universal and profitable use throughout that low country, and are indispensable in drawing off the surplus water, which would otherwise flood it, by emptying it into canals which have their outlets in the sea, or in rivers. The reverse of this is suggestive in favorable locations.

It is not for me at this time to explain the details of the numerous methods of applying water to crops, but they are such as all can readily become familiar with, and can be found described in a little book by Henry Stewart, published in 1877, and which can be commended to our libraries as valuable for their farm-departments. I trust that this subject will be found attractive, and that the obstacles to be met with in arguing its merits, will prove only temporary, and be soon destroyed by the force of well directed thought and the intelligence of farmers.

FORESTRY.

The importance of the subject of forestry to which I have

already briefly referred, cannot be too highly pictured, nor too forcibly impressed upon every inhabitant of our extensive territory in these Eastern States especially; least in the State of Maine, but also of our whole nation. Everyone should be appealed to in whatever strain will be most likely to stimulate the individual to see it in its true light, that he may then either act upon it himself, or endeavor to influence others to plant trees, no matter how small a number; but the larger of course the better. It is an agent in preventing droughts and continuance of our manufactories, for the benefit of our descendants, that it should be our interest, and indeed is our duty, to impress the importance of this subject upon all minds. Our first object should be to make the interest in, and love of, trees popular among the majority of our citizens.

The owners of even the smallest house-lots, as well as those of greater extent, can always find time and a place to plant a few trees about their homes in appropriate spots, and of appropriate kinds, if such are not already in place, regard being had to where the sun, wind, and views should be shut out, or invited. All citizens and voters should realize the value of shade trees on the road-sides during the heat of Summer, when passing to and from their daily occupations, and they should remember these facts at those seasons when town meetings are about to be called, and should advocate and encourage shaded roadways and side-walks, so far as is consistent with their proper uses.

Such work tends to make localities more attractive and to keep the population more settled and less transient, and thereby enhances the value of real-estate in every sense of that word.

There is much pleasure to be had from the choosing, preparing

for, planting and tending a few, or many trees. With the care of a few trees our affections are surely turned towards them, and a thoughtful training and directing of their growth will reward their owners by quickened development and more perfect symmetry. As a rule, and such is my own experience, our native trees, both deciduous and evergreen, are to be preferred, for all kinds of planting to the foreign varieties. They thrive better and preserve a more perfect development, where a foreign variety deteriorates more frequently as its age increases.

Young trees which are set out in more exposed locations, even with the very best of care in preparation and planting, cannot always be expected to thrive, but frequently need an addition of more hardy, and perhaps less desirable varieties, to be planted among them as nurses, with the idea of removing these latter when the permanent trees are well started. Hills of Indian corn are also sometimes planted on the southerly side of young trees, and are allowed to remain there during their first winter as a shield from sun and wind. Foreign trees are often very desirable to mix with natives for effect in planting, and in protected locations, and should by no means be entirely discarded for such valuable uses. It has been recommended by many to import our trees but more especially when the resources of our own nation were less known than to-day. The European larch has been highly recommended for extensive planting on poor land, but my experience and that of a well known member and former Trustee of this Society, is against such recommendations. I believe that the white pine is the best growth for most of our lands, to be followed in natural rotation by deciduous trees on most New England soils which would be devoted to tree raising. An eminent authority says that "woodlands which have been long preserved by their

owners, sooner or later pass into the possession of those who, impatient to enjoy their value, and reckless of other considerations, ruthlessly fell them. Much of the land thus bared is of little value for any other purpose than the growth of wood, and is usually so closely pastured by domestic animals as effectually to prevent a new growth of trees.

In many of the older States the scarcity of timber is already severely felt. Hills and mountains which, not many years since were crowned with wood, now rear their heads in unsightly baldness; and streams once affording permanent water power have become useless for that purpose, or unreliable for a great part of the year."

In many foreign countries forests have been taken as the property of the government as the only means of protecting the country from wanton depredation.

The authority given by last season's Legislature for this State to become owners of woodlands and care for them is probably the best plan to insure their proper treatment.

The length of time required for the growth of timber from the seed to maturity shows that it was never designed in the order of nature for the exclusive use of a single generation.

I should mention why the state of Maine needs least instruction in forestry; it is because her prosperity being so dependent upon the product of her forests it has been the study of her citizens to keep them as continuous as possible. The European system prevails there quite largely, " cutting only the large trees and carefully protecting the rest, thus allowing the forests to be profitably worked at periods of from fifteen to twenty-five years apart, and thereby insuring their permanence. In this way, considerable areas are covered with second-growth pine."

PROTECT THE BIRDS.

There is one more subject connected with the cultivation of crops, which is a practical part of forestry not yet referred to, namely, that forests and all trees are the home of insect-eating birds. And when we consider how destructive we find many insects in our fields we ought to remember that the birds are very largely our defenders from that sort of enemy, and that we in return should consider that they depend upon us to protect their homes, and to afford them the opportunity of building their nests in trees in the neighborhood of our cultivated fields.

A study of birds and insects is also an interesting occupation for the evenings with the family, and is, in several foreign countries, considered a necessary part of school education for everyone.

SOUR FODDER AND ENSILAGE.

As the subject of ensilage is attracting much attention among us at this time I may be able to add a few words of interest. An article upon the subject was printed in our Transactions for 1873, based upon what I saw in Austria-Hungary at the time of the Vienna Exposition. The process of curing corn fodder, &c., as carried on there is known as sour-fodder, and differs from the French process, which is the one adopted in this country and which is too generally known to need our attention now. The Hungarian, as well as the French, method is approved by distinguished scientific men, and I saw it upon an extensive farm which was conducted upon principles coinciding with the teachings of the Agricultural College at Altenburg. The fodder was fed to a herd of milch cows, about fifty if my memory serves me right, and I saw that they ate it with a real relish.

Some meal was fed with it, but I am unable to state the quantity. After each milking the milk was immediately poured into a small tank from which it quickly flowed through a long spiral pipe surrounded with cold water and was drawn off into milk cans, to be sent directly to the Vienna market by rail where it arrives twice a day. This applies to the farm I visited, but the same kind of fodder was fed on various other farms, where the treatment of the milk may have differed.

These observations were made in 1873, and within a few months I have heard from an acquaintance in Hungary that the same process is to-day considered indispensable among the farmers there, and is conducted as I then saw it. I therefore think it worth while to state it clearly in the words of my friend.

"The corn is sown broadcast, or drilled in rows nine to eighteen inches apart, about three and one-half bushels to the acre. The cultivation is the usual one; the field must be kept free from weeds. At blossom-time the corn is mown, loaded into wagons, and hauled in. The home-brought corn is put in large ditches, ten or twenty rods long, and is here pressed in by a few men walking on the green corn. The ditch is twelve feet deep, twelve feet wide at top, and six feet at the bottom. The length will need to be sufficient to contain the fodder to be preserved. The ditch must be dug in dry ground. When the ditch is filled, the green corn is built like a stack upwards, about ten feet over the level of the ground. The finished stack is then covered with earth about two feet thick on every side. It is best to cover the top of the stack at first, because on account of the weight of the earth pressing down the green corn, as much earth is not needed for covering as is the case when the sides are covered at first.

"This sour-hay making enables us to store a large quantity of juicy fodder for the Winter, and if well covered with earth it may be stored for a few years without injury. The most important of all is, the beasts being once acquainted with this sour-hay like it very much. With us (in Hungary) the sour-hay is cut and mixed with corn-meal, or some other ground grain, and given to the cattle, but the sour-hay may be fed uncut also.

"In sections where stones and bricks are to be obtained, the sides of the ditch may be walled, but it is not necessary. * * "

Considering the fact that the climate in that part of Europe where corn is thus cured, is much like our own; that the cutting up is dispensed with until separated in the pit for use; that the cost of housing it is considerably less, all combine to make us study the subject to see whether we cannot yet adopt a still cheaper method of curing corn fodder than the French way.

While the farmers are forced by competition to sell milk at the absurdly low prices that have lately ruled we must welcome everything that shall appear to tend towards putting more honest profit into the milk-raiser's purse.

Certainly the French process bids fair to preserve Summer food through the Winter months, and where stall feeding is practised, to keep it in good condition into the following Summer, if desired.

Grass, rowen, and green crops in general are also preserved thus as well as corn-fodder. Knowing that fresh pasture feed makes the best milk, it is urged that ensilage of grass is a much better Winter food for milch cows, or animals that would be benefited by pasture feed, than dried up grass that is called hay. It can only be for such animals, and under those conditions, that ensilage, or sour-fodder, can be of value upon

the farm, and the practical trials that have every appearance of success to the minds of those who conduct them as well as many others, would seem to prove their value.

The fact that a large number of the intelligent farmers in different parts of this county of Essex have built silos and are continuing to use them seems to show me that it can be made so cheap that those who feed milch cows can afford to make it.

It would not be in accordance with the laws of nature to expect cattle to thrive in our latitude, when fed only on pasture feed for a whole year as some persons have claimed was possible where ensilage was to be made to represent pasture-feed during the Winter. Our cold seasons demand a warming, or fattening food, and we must continue to depend upon Indian-corn and other meals for that purpose, and not be too sparing in their use; remember also that the profits of the farm will be in proportion to the richness of the manure heap.

DOES FARMING PAY?

We frequently hear the question asked, and see the subject written up in agricultural papers, "Does farming pay?" There can be no doubt as to the answer. Of course it can. No land can voluntarily pour out its plenty into the hands of its owner. All depends upon who its owner is. Any active man can secure all the *needs* of this world and be adding improvements to his home. No one can make farming a success unless he applies all his energy and intelligence to his calling; and under such circumstances he will be well repaid. With a united family and the boys at home—conducting its work and all sharing in its advantages and profits—with its operations made extensive and varied, and with a small amount of hired help, it would seem possible to derive a large return in profit, health, happiness and satisfaction.

Ambition is necessary, which is the key to all success. The same energy that changed the undeveloped home of the savage into this grand christian Nation, that we claim as our own, is what can make farming pay, and in this country there are no obstacles to its free use.

SHEEP.

I would refer to sheep as an undoubted means of renovating worn-out, and now almost unused, pastures where bushes, briars and moss are on the increase and where the nutritious grasses have been suppressed by such useless growths. Many of our pastures possess a broken and rocky surface where the plough cannot be used, and where no implement can well serve to better it. In the sheep we have the means of keeping down the bushes, briars and moss and increasing and fertilizing the nutritious grasses on such rough and rocky land.

Sheep cannot be expected to feed on old bushes or old briars, but all such should be mowed down at the start; nor can they be expected to thrive in, or fully benefit, on old run-down pasture, without receiving some good feed from their owner each day. Our late Sec'y of Agriculture says in regard to keeping sheep " that it was necessary to give them something to keep them quiet and contented, or they would be jumping over the stone wall. So I bought a lot of cotton seed meal, paying thirty-five or forty dollars a ton; and I fed those sheep every day, morning and night, with cotton-seed-meal. They liked it first-rate, and it agreed with them uncommonly well. I do not remember the exact quantity, but perhaps a pint for each sheep at each feeding." " The result was, they cleaned out absolutely every briar, and every sumac-bush, and many other

shrubs, but not the huckleberry bushes. They covered the pasture with manure." * * * "The cotton-seed-meal was a great advantage to that pasture."

They require careful attention on the part of their owner, that all forms of disease may be warded off, or cured at the start; and knowledge as to their habits and the diseases to which they are liable are necessary to successful management. This knowledge is readily obtained from good books upon the subjects which exist and should be found in the agricultural departments of all city and town libraries. The Sec'y of the State Board in his last report emphasizes the importance of this industry and urges its value upon all farmers. The ravages of dogs, by which the sheep are either killed out-right, or run to death, largely prevents their being kept. It is true that the loss by any damage done to flocks can under the laws be recovered by proving the loss; but farmers who have had experience claim that it costs too much in time and money to make it worth while attempting it. Consequently the farmer finds only loss in raising sheep and is at present unwilling generally to undertake it. An attempt was made last winter before the Legislature to alter the existing dog-laws in the interest of the would-be sheep raisers, but the opposition was too strong. It is a case where the welfare of the minority needs protection. An instance has just been called to my notice near Marblehead where some young cattle have been killed by dogs within the limits of the city of Salem. The owner will attempt to secure damages and the result will be of interest to us all. If state laws can be made to protect sheep-husbandry, all farmers should unite for their general good to secure their passage.

HORSE-SHOEING.

In the county of Yorkshire, England, a feature is introduced at the annual agricultural show which is certainly intimately connected with the business of our farms which creates much interest there, namely, a competitive exhibition of horse-shoeing in a manner adapted to the different horses for which that society offers premiums, and prizes are awarded by expert judges. It proves a very attractive feature of the show and its usefulness must be universally admitted. A member of our society, who this year has visited that show, has been urged to write upon this subject for our Transactions. Can we not adopt it to our advantage?

Considering the great strain, and wear, sustained by the sensitively made foot of the horse, in the amount of work done upon our hard roads, often excessively dry and of extra hardness for a long period of the year, it should be our aim, in every possible way to impress upon the public the importance of skillful shoeing, and endeavor to increase knowledge of the art.

Were there time I might properly dwell at length upon the value of our State Agricultural College as affording opportunities for advanced education to the farmer's more ambitious son; and particularly upon its value to us as an Experimental Station. It was a most wise act that founded the latter during the past winter, and the extent of its future success, even under the wisest management, must to a very great degree depend upon the amount of money granted to be expended upon it. Let us hope that we shall soon benefit by its influence.

In conclusion let me call your attention to the following figures taken from the most recent list of members of the

Society and the last census, showing that, with a population in the county of 223,342, we have only 1,402 members, and 98 non-resident members; or one member to every 159 of population.

While there is nothing discouraging in this exhibit, it has seemed to me that these figures show us that it would be to our advantage for all of us to make a determined effort to recruit our ranks to higher figures, by applying this plan.

Let every member strive to secure at least one new member for the Society before another year, remembering that the young as well as the older citizens are welcomed, and that we have now some ladies on the list. With enlarged membership and increased funds, the usefulness of our Society would be extended.

Cities or Towns.	Has one member to every	Members.	Population.
Hamilton,	23	35	797
Wenham,	25	36	911
Newbury,	27	52	1,426
Boxford,	35	24	834
West Newbury,	38	53	2,021
North Andover,	46	65	2,981
Danvers,	54	123	6,024
Bradford,	56	42	2,347
Lynnfield,	59	13	769
Rowley,	65	18	1,162
Topsfield,	67	18	1,221
Essex,	68	25	1,713
Georgetown,	69	32	2,214
Ipswich,	71	52	3,674
Groveland,	80	26	2,084

Cities or Towns.	Has one member to every	Members.	Population.
Manchester,	82	19	1,560
Middleton,	84	13	1,092
Andover,	102	50	5,097
Peabody,	133	72	8,066
Haverhill,	142	103	14,628
Beverly,	148	57	7,271
Methuen,	155	27	4,205
Merrimac,	167	13	2,171
Gloucester,	168	100	16,754
Newburyport,	178	75	13,323
Swampscott,	213	10	2,128
Saugus,	234	11	2,578
Rockport,	299	15	4,480
Salem,	324	85	25,958
Marblehead,	365	21	7,677
Amesbury,	424	9	3,816
Lynn,	525	62	32,600
Nahant,	766	1	766
Lawrence,	852	41	34,916
Salisbury,	1,020	4	4,078
		1,402	223,342

SIXTY-SECOND

ANNUAL CATTLE SHOW AND FAIR.

The show was held at Haverhill, Sept. 26 and 27, 1882.

The exhibition of Farm Stock, Agricultural Implements, &c., was on the circus grounds, Pond street; the Ploughing Match on land of John J. Marsh, Main street.

The exhibition of Fruit, Vegetables, Domestic Manufactures, &c., was held in the City Hall.

On the second day, after the annual address at the Centre church by Mr. Francis H. Appleton of Peabody, the annual dinner was served at Music hall, Benjamin P. Ware, President, presiding, and addresses were listened to from His Excellency John D. Long, John E. Russell, Secretary of the State Board of Agriculture, and others.

The entries in the several departments of the Fair were as follows:

STOCK, ETC.

Fat Cattle, three pairs; Bulls, eleven; Milch Cows, fifteen; Herds of Milch Cows, three; Heifers and Calves, thirty-nine; Working Oxen and Steers, ten pairs; Steers, eight pairs; Town Teams, three; Stallions, eleven; Brood Mares, ten; Family Horses, twelve; Farm and Draft Horses, fourteen; Pairs of Draft Horses, fourteen; Colts, twenty-five; Swine, seventy-three; Sheep, eighteen; Poultry, thirty-five coops; Ploughing, twenty-one entries; Agricultural Implements, eight entries; carriages, five entries.

IN THE HALL.

Pears, 20 entries, 240 plates; Apples, 59 entries, 260 plates; Peaches, Grapes, &c., 23 entries, 45 plates; Flowers,

37 entries; Vegetables, 52 entries; Counterpanes, &c., 67 entries; Articles from Leather, 4 entries; Merchandise, 10 entries; Fancy Work and Works of Art, 184 Entries; Children's Work, 23 entries; Bread, Honey, Preserves, etc., 11 entries; Dairy, 10 entries.

CHAS. P. PRESTON, *Secretary.*

REPORTS OF COMMITTEES, ETC.

FAT CATTLE.

The Committee on Fat Cattle report three pairs of oxen entered for premiums. After careful examination they have awarded the Society's premiums as follows:—

First premium to C. W. Adams, of Newbury, $12.

Second premium to Joseph Newell, of West Newbury, $10.

Third premium to James H. Reynolds, of North Andover, $6.

Thomas G. Ordway, George G. Davis, John A. Ellis.—*Committee.*

STATEMENT OF JAMES H. REYNOLDS.

This pair of cattle, five years old, which I enter for "Fat Cattle," were bought by me last Spring, measuring 6 feet, 11 inches and weighing 3150 pounds. Gave them 4 quarts meal per day during spring work, after which I turned them out to pasture about three weeks; nothing but grass during that time. Took them to the barn during the month of July, did most of my mowing with them, gave them three quarts of meal besides good hay. Since the first of August have been out to grass, three quarts of meal per day, working them on farm, ploughing, etc. They now measure 7 feet 5 inches, and weigh, the

nigh one, 1910, the off one, 1900—a gain of 660 pounds. It is said there has been but 10 pounds difference between them for two years past.

BULLS.

Your Committee would report one entry of Thoroughbred with his stock, five entries of Jerseys, one entry of Shorthorn, one entry of Ayrshire, two entries of Holsteins, and have awarded premiums as follows:

To W. A. Russell, of Lawrence, for his Thoroughbred Holstien with stock, first premium, $15.

To C. S. Bradley, of West Newbury, for his Short Horn, "Lord Dunmore," first premium, $10.

To Dudley A. Massey, of Danvers, for his Ayrshire Bull, "Brown Mars," first premium, $10.

To Thomas Sanders, Esq., of Haverhill, for his Jersey Bull, "Yellow Birch," first premium, $10.

To George W. Russell, of Lawrence, for his Jersey Bull, second premium, $6.

SECOND CLASS,—BULLS UNDER TWO YEARS OF AGE.

To Henry C. Nevins of Methuen, for his Devon Bull, first premium, $6.

To W. A. Russell, of Lawrence, for his Holstein Bull, "Henry Clay," first premium, $6.

To Thomas Sanders, of Haverhill, for his Jersey Bull, "Birch Bay," first premium, $6.

To W. A. Russell, of Lawrence, for his Holstein Bull, "Ernest," second premium, $4.

To Thomas Sanders, of Haverhill, for his Jersey, "Black Birch," second premium, $4.

Your Committee would make special mention of the Holstein Bull with stock of his get, exhibited by Mr. Russell, as one well adapted to the wants of this county, as we are essen-

tially a milk producing community ; the heifers showing large capacity for milk with excellent disposition, and large size, and the bulls a remarkably quiet and gentle disposition.

Your Committee would also make special mention of the Short Horn Bull, "Lord Dunmore," exhibited by Judge Bradley ; and of the Ayrshire Bull, "Brown Mars," exhibited by Mr. Massey, as animals of the highest merit in their respective breeds, and would take the liberty to suggest to the farmers of Essex county that it would be much to their advantage to breed from such animals instead of using the common grade bulls which so many of us do.

Respectfully submitted,

RICHARD NEWELL, *for the Committee.*

MILCH COWS.

The Committee on Milch Cows would report that there were twenty entries for premiums which were awarded as follows :—

Special premium of $25 to Wm. A. Russell, Lawrence, for his thoroughbred Holstein "Margo."

Best Milch Cow, first premium, $12 to M. O. Luce of Haverhill. Second premium of $6 to W. R. Whittier of Haverhill.

JERSEYS.

First premium of $12 to Harry H. Hale of Bradford, for cow "Nellie."

Second premium of $6 to Thomas Sanders of Haverhill, for cow "Nellie Birch."

DURHAMS.

First premium of $12 to C. S. Bradley of West Newbury, for cow, "Imperial Rose."

Second premium of $6 to C. S. Bradley of West Newbury, for cow, "Earls Dot, 2d."

HOLSTEIN.

First premium of $12 to Wm. A. Russell of Lawrence, for cow, "Jennie Clay."

Second premium of $6 to Wm. A. Russell of Lawrence, for cow, "Lady Noble."

To Nathan Priest of Haverhill, for his native cow, we would recommend a gratuity of $5.

One cow entered was thought to be too old to come within the rules of the Society, and a failure to present a written statement prevented others from being entitled to premiums.

James P. King, Alfred Green, Sherman Nelson—*Committee.*

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows:

I enter for the special premium for the best Milch Cow, my thorough-bred Holstein cow, "Margo"—Holstein Herd Book, No. 184.

Dropped her last calf March 2, 1882, and is due to calve Jan. 20, 1883.

Her record from Feb. 13th, 1881, to Jan. 17th, 1882, is as follows:—11,861 pounds for 337 days, an average of 35.20 pounds per day.

From May 8th, 1882 to Sept. 1st, 1882:—

May,	23 days,	1160 lbs.
June,	30 days,	1264 lbs.
July,	31 days,	1199 lbs.
Aug.,	31 days,	971 lbs.
	115 days,	4594 lbs.

An average of 39.94 pounds per day.

Her feed in winter has been one peck of shorts, and four quarts of corn and cob meal, with one feed of hay and ensilage once each day. Summer feed has been two quarts of cotton seed and two of clear corn meal, and corn fodder or

hay, each night and morning. I made a practice of feeding in the barn during the summer, on account of not having sufficient pasture for my herd of milch cows.

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows:

I enter for the premium on thorough-bred Holstein, four year old and upwards, "Jennie Clay," No. 341, and "Lady Noble," No. 360.

"Jennie Clay" is four years and six months old. She dropped her last calf April 13th, 1882, and is due to calve Feb. 31st, 1883. Milk record from April 16th to Sept. 1st, 1882, is as follows:

April,	14 days,	735 lbs.
May,	31 days,	1223 lbs.
June,	30 days,	1128 lbs.
July,	31 days,	930 lbs.
August,	31 days,	829 lbs.
	137 days,	4845 lbs.

An average of 35 35-100 pounds per day.

"Lady Noble" is four years and six months old. She dropped her last calf March 20, 1882, and is due to calve Jan. 13th, 1883. Milk record from April 1st to Sept. 1st, 1882, is as follows:

April,	30 days,	1372 lbs.
May,	31 days,	1239 lbs.
June,	30 days,	1000 lbs.
July,	31 days,	956 lbs.
August,	31 days,	813 lbs.
	153 days,	5380 lbs.

An average of 35 16-100 pounds per day.

The feed of each cow has been one peck of shorts and four quarts of corn and cob meal in the winter, together with one

feed of hay and ensilage once each day. Their summer feed has been two quarts of cotton seed meal and two of clear corn meal each day, and corn fodder or hay each night and morning, to help out deficiency of pasture.

WILLIAM A. RUSSELL,
by James C. Poor.

STATEMENT OF M. O. LUCE.

The cow I enter is a grade short horn, is six years old 28th of March last; dropped her calf Aug., 1881, and gave from fifteen to seventeen qts. of milk per day, without grain, for three months after calving. At three months before calving, this year, was giving four qts. of milk per day; she had four qts. of cob meal per day through the winter.

STATEMENT OF HARRY H. HALE.

Jersey Cow, "Nellie;" owner, Harry H. Hale. Bred by Mr. Havemeyer at Orange, N. J., from cow owned by him, and believed by him to be properly registered. Number missing. By Imp. Bull belonging to Lowell Mason of Mont Rose, New Jersey. Cow Nellie dropped last calf, May 10th, 1882.

She gave from 23 to 25 qts. of milk per day, from that time until the drouth, from which from 10 to 12 lbs. of butter was made per week. Have given no feed but green corn fodder twice each day and what little grass she could find. Have made butter every week this year from her milk.

STATEMENT OF W. R. WHITTIER.

I enter for premium, a Durham and native cow, 7 years old. She is a fine family cow; never gives a large mess of milk; not more than from 12 to 15 quarts in 24 hours. But gives very rich milk, and holds out up to her calving if desired; makes fine butter in a short time. Has had no feed excepting what she got in the pasture up to August; since that time we have given her 4 quarts of shorts, in water, a day. This cow calved last May and calves again next May.

STATEMENT OF NATHAN PRIEST.

Native cow, 9 years old, bought her with a calf 2 weeks old April 1st; will calve again last of March. The man I bought her of said she was capable of making 12 lbs. of butter a week, but since I have had her I have sold the milk. She averaged 14 qts. of milk per day until June 1st, through June until August 18 qts., from then until now 13 qts. Gave her 4 qts. of shorts until Sept. 1st, since then 2 qts. of meal extra.

HERD OF MILCH COWS.

The Committee award as follows :—

To William A. Russell of Lawrence, first premium, $18.

To Thomas Sanders of Haverhill, second premium, $12.

Samuel S. Pratt, M. A. Plummer, George M. Wonson, Charles J. Peabody, John Q. Evans.—*Committee.*

STATEMENT OF WM. A. RUSSELL.

To the Committee on Herd of Milch Cows :—

I enter for your consideration my Holstein cows, "Maid Marion," "Cathrena," "Margo," "Maud Clay," "Maid Fairfax," "Jennie Clay," "Lady Noble," all thorough-breds, and "Bessie," "Dido," "Sally," and "Georgia," grade Holstein.

"Maid Marion,"	dropped	her	last	calf,	March 1st,	1882.
"Cathrena,"	"	"	"	"	Feb. 22,	"
"Margo,"	"	"	"	"	March 2,	"
"Maud Clay,"	"	"	"	"	Oct. 19,	1881.
"Maid Fairfax,"	"	"	"	"	Dec. 20,	"
"Jennie Clay,"	"	"	"	"	April 13,	1882.
"Lady Noble,"	"	"	"	"	March 20,	"
"Bessie,"	"	"	"	"	Sept. 14,	"
"Dido,"	"	"	"	"	Aug. 20,	"
"Sally,"	"	"	"	"	March 25,	"
"Georgia,"	"	"	"	"	March 26,	"

Their milk record, which was determined by weighing and recorded at each milking, is as follows :

"Maid Marion,"	from March 6 to Sept. 1,	178	days,	8924	lbs
"Cathrena,"	" March 1 to Sept. 1,	184	"	7399	"
"Margo,"	" March 8 to Sept. 1,	176	"	7405	"
"Maud Clay,"	" Nov. 1, '81 to Aug. 1, '82,	272	"	9008	"
"Maud Fairfax,"	" Jan. 1, '82 to June 1, '82,	151	"	5466	"
"Jennie Clay,"	" April 16 to Sept. 1, '82,	137	"	4845	"
"Lady Noble,"	" Mch. 27 to Sept. 1, '82,	157	"	5585	"
"Bessie"	" Sept. 16, '81 to Feb. 17, '82,	153	"	5700	"
"Sally,"	" April 1, '82 to Sept. 1, '82,	153	"	5011	"
"Georgia,"	" March 31, '82 to Sept. 1, '82,	153	"	4588	"
"Dido,"	" Aug. 25, '82 to Sept. 25, '82,	30	"	1080	"
		1744		65,011	

An average of 37 29-100 pounds per day,

Their winter feed has been eight quarts of shorts and four of corn and cob meal each day, while in the barn, and the summer feed, besides pasture, has been two quarts of cotton seed meal up to the first of July; after that two quarts of cotton seed and four of shorts, the latter being given in the morning and the cotton seed meal at night. They have also had in winter time some roots, dry fodder (hay and corn fodder), once each day and one feeding of ensilage. During the low pasturage of this summer they have had either hay or corn-fodder morning and night. In winter they are watered twice each day after feeding; and they are milked at 5 A. M. and 6 P. M. regularly the year round.

STATEMENT OF THOMAS SANDERS.

To the Committee on Herd of Milch Cows :—

I enter for premium, Herd of Milch cows, thorough-bred Jersey, "Birch Brow", No 16,305; "Lady Birch," No. 16,307; " Nellie Birch," No. 15,618 ; " Idex 3d," No. 13,708 ; "Decca 3d," No. 5531 ; " Nina 2d," No. 2557.

" Birchbrow," No. 16,305, dropped her calf, "Birchbrow, 2d,"* April 30th, 1882, and gave from that time, until sent to

Col. H. S. Russell's Home Farm, Milton, to be served by Pedro, July 22d, 1882, 18 pounds of milk per diem, on ensilage with four quarts of shorts and one feed of hay while in the barn, and ordinary pasture after May 16th without grain. This was the treatment to which the whole herd was subjected after calving. Before calving they were fed on ensilage with two quarts of shorts and one quart of cob meal per diem without any hay.

"Lady Birch," No. 16,307, dropped her first calf in March, 1882. Her feeding and record are almost identical with those of "Birchbrow," No. 16,305, and she was also sent to Pedro, July 22, 1882.

"Nellie Birch," No. 15,618, dropped calf in April, 1882, and has, since until August 1st, given twenty-three pounds of milk per diem.

"Idex 3d," No. 13,708, dropped calf in April, 1882, and has since until August 1st given 18 pounds of milk per diem.

"Decca 3d," No.5531, dropped calf, "Birch-breeze,"* Mch. 19, 1882, and has, since until August 1st, given 17 pounds of milk per diem.

"Nina 2d," No. 2557, dropped calf, "Mole Birch"* October 3d, 1881, and since until August 1st, 1882, given 12 pounds of milk per diem, which considering her age, feed, and the length of time after calving is a fair record.

I have never tested any of the milk for butter, as my barn and dairy arrangements are not yet perfected, but as the cows are from a butter-making family, I expect to show, next year, after a careful record, very handsome results.

I desire to call attention to the fact that "Nellie Birch," No. 15,618, is the mother of "Birchbrow," No. 16,305, and "Decca 3d," No. 5531, is the mother of "Lady Birch," No. 16,307.

All these animals are recorded in the American Jersey Cattle Club's Herd Register.

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*Not recorded but entitled to registry.

HEIFERS—FIRST CLASS.

The Committee on Heifers, First Class, have attended to their duty, and report as follows:—

HOLSTEINS.

William A. Russell, Lawrence:—

Heifers under Four years old, in milk.

"Fanny Noble," 2 years 6 months old, first premium, $12.

"Belle Fairfax," 2 years 9 months old, second premium, $6.

Mr. Russell's statement is good.

"Fanny Noble," calved Sept. 17, 1882, and has a record for five days, ending Sept. 24, 1882, of 193 pounds, 38.60 lbs. per day.

"Belle Fairfax," calved August 25, 1882, and has a record for first 24 days in September, of 811 lbs., an average of 33.79 lbs. per day.

They run at pasture, and are fed in the morning with four quarts of shorts, and at evening with two quarts of cotton-seed meal; they get green corn-fodder also, morning and evening, and are milked three times each day

Heifers not in milk, over One year old.

"Emma Clay," 16 months old, first premium, $6.00-

"Lady Shepard," 18 months old, second premium, $4.00.

Heifer Calves under One year old.

"Lady Royal," 6 months old, first premium, $5.00.

"Mabel Marion," 6 months old, second premium, $3.00.

SHORT HORNS.

C. S. Bradley, West Newbury:—

Heifers not in milk, over One year old.

"Minnie 5th," dropped April 20, 1881, first premium, $6.

"Byfield Tulip, 2d," dropped Feb. 10, 1881, second premium, $4.00.

Calves.

"Early Dot, 5th," dropped July 22, 1882, first prem., $5.

"Imperial Rose, 8th," dropped June 1, 1882, second premium, $3.00.

DEVONS.

H. C. Nevins, Methuen:—

Heifers in milk.

"Winooska Belle," first premium, $12.00.

"Rosamond, 3d," second premium, $6.00.

Under Four years old, and not in milk.

"Juno," dropped July 29, 1882, first premium, $6.00.

"Minnie May," second premium, $4.00.

JERSEYS.

Thomas Sanders, Haverhill:—

"Birch Brow," 3 years old, in milk, second premium, $6.

"Birch Brow 2d," over 1 year old, not in milk, first premium, $5.00.

"Mole Birch," second premium, $4.00

One calf, "Birch Brow," second premium, $3.00.

Some nice stock was exhibited and entered for premium, claiming to be blood stock, having received the Society's premium heretofore. But no statement of reference for pedigree could be furnished.

To avoid the error of granting premiums where no reference for pedigree can be furnished, in compliance with the rules of the Society, your Committee recommend that the Society choose a Standing Committee on blood stock, of those who will interest themselves in carrying out the will of the Society, and have access to books of reference. When will the Society awake to their interests in this matter?

Chas. P. Mighill, W. Burke Little, Thos. G. Ordway, E. G. Nason.—*Committee.*

STATEMENT OF WM. A. RUSSELL.

To the Committee on Heifers, first class:—

I offer for premium the following heifers under four years old and giving milk.

"Belle Fairfax," 2 years and 9 months old.

"Fanny Noble," 2 years and 6 months old.

Both are thorough-breds and are numbered in the herd book 1117 and 1114 respectively.

"Belle Fairfax," calved August 25th, 1882, and has a record for the first 24 days in September of 811 pounds, an average of 33 79-100 pounds per day.

"Fanny Noble," calved September 17th, 1882, and has a record for five days ending with September 24th, of 193 pounds, 38 60-100 pounds per day.

They run at pasture and are fed in the morning with four quarts of shorts, and at evening with two quarts of cotton-seed meal; they get green corn-fodder also, morning and evening, and are milked three times each day.

I also enter for premium for "heifers one year old and upward, never calved" the following:—

"Lady Shepard," 18 months old.

"Emma Clay," 16 months old.

Also for heifer calves under one year old :—

"Lady Royal," 6 months old.

"Mabel Marion" 6 months old.

The four heifers above are all thorough-bred from choice imported stock.

STATEMENT OF THOMAS SANDERS.

To the Committee on Heifers :

"Birch Brow," No. 16,305, dropped her calf, "Birch Brow 2d,"* April 30, 1882, and gave from that time until sent to Col. H. S. Russell's Home Farm, Milton, to be served by Pedro, July 22d, 1882, 18 pounds of milk per diem, on ensilage with four quarts of shorts and one feed of hay while in the barn, and ordinary pasture after May 26th, without

grain. Before calving fed on ensilage with two quarts of cob meal per diem without any hay.

"Lady Birch," No. 16,307, dropped her first calf in March, 1882. Her feeding and record are almost identical with those of "Birch Brow," No. 16,305, and she was also sent to Pedro.

HEIFERS—SECOND CLASS.

The Committee on Heifers, Second Class, award as follows:

To Charles W. Adams of Newbury, for Yearling Heifer, first premium, $6.

To S. & N. Longfellow of Groveland, for Yearling Heifer, second premium, $4.

To T. O. Wardwell of North Andover, for calves, first premium, $5.

To B. H. Farnham of North Andover, for Calves, second premium, $3.

John Swinerton, George E. Herrick, Albert Berry.—*Committee.*

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers have attended to their duty and make the following report:—

Eight pairs of oxen were entered, and seven appeared and contested for the premium. We award as follows:—

First premium of $12 to Albert Berry of North Andover.

Second premium of $10 to Miss Harriet E. Kittredge of North Andover.

The third premium of $8 to J. L. Farnham of No. Andover.

First premium on four year old Steers, $10, to B. H. Farnham of North Andover.

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*Not recorded but entitled to registry.

Second premium of $6 to William and Alfred Little of Newbury, all of which are respectfully submitted.

HARTWELL B. ABBOTT,
for the Committee.

TOWN TEAMS.

The Committee report as follows:—

For twelve pairs of Horses from North Andover, first premium, $25.

For sixteen pairs of oxen from North Andover, first premium, $25.

For ten pairs of oxen from Bradford, second premium, $15.

George W. Sargent, J. Longfellow, Edward G. Dole.—*Committee.*

STEERS.

The Committee on Steers respectfully submit their report, as follows:—

Whole number entered for premium, ten pairs. Three year old, three pairs.

Byron K. Farnum of North Andover, entered a fine pair of twin steers, very handy and appeared as well used to the yoke as older oxen. The Committee were told that these steers would be used to lead one of the teams in the ploughing match (swivel plough), the next day, and we award to said Farnum the first premium of $8.

Henry Berry, of Boxford, showed a fine looking pair of well matched steers, handy in the yoke or out of it. These steers were a very near match for Farnum's and the awards were not made until the Committee did make a very close examination of the two pairs, and were unanimous in our

opinion that this pair were second, and therefore awarded to Mr. Berry the second premium of $6.

The other pair belonged to Henry H. Spofford of Groveland. These steers were worthy of notice, used to the yoke and well matched, but as the Committee had no third premium to award, and by the rules of the Trustees, no gratuities at our disposal was obliged to pass them by.

Two year old four pairs. The best pair belong to S. & N. Longfellow of Groveland. These were of Durham blood, large of their age, although not so well used to the yoke as some of the other steers, yet no one would doubt that they were worthy of the first premium of $6.

J. Ralph Farnum of North Andover, showed a very handsome pair of Herford steers, handy as oxen and well matched, and we award to him the second premium of $5.

The other two pair were owned by H. H. Spofford of Groveland, and B. W. Farnum of North Andover, both pairs being handy; but the Committee were out of funds, and could only hope that the boys who had the care of them might become good men and practical farmers.

Yearling steers three pairs. The Committee award to Thomas Saunders of Haverhill, the first premium of $5.

Richard Bray of Newbury, entered the other two pairs and we award the second premium of $4 to the said Bray for his twin steers.

We were sorry to say that there were no steer calves on the ground, but would recommend that the Trustees hereafter offer a second premium of $3 for steer calves.

Abel Stickney, Daniel A. Carleton, Royal Day.—*Committee.*

STALLIONS.

The Committee found eleven entered for premium, and have awarded as follows:

To H. H. Hale of Bradford, the special premium of $25, for his Stallion, "Red Path," with ten colts.

To Henry C. Nevens, of Methuen, the second premium of $8, for his four year old Stallion, "Daniel Lambert."

To J. R. Prescott, of Haverhill, the third premium of $6, for his Stallion, "Phil Sheridan."

We award the first premium of $8 to Henry C. Nevins, of Methuen, for the best three year old Stallion, "Redpath, jr."

The second premium of five dollars to John O. Goodwin, of North Andover, for his three year old Stallion.

Many of the Stallions entered were young and very promising and would do credit to any stock raised. The Committee were sorry they did not have it in their power to award more premiums.

CHAS. H. GOULD,
for the Committee.

BROOD MARES.

The Committee on Brood Mares met at the Fair grounds, Tuesday at 2 o'clock, P. M., all present. Eight mares were presented for our examination. Four of them were sound, and four unsound.

The first premium of $12, was awarded to Thomas Sanders; the second of $8, to Rufus Goodwin; the third of $6, to J. J. Downing.

The Committee wish to call the attention of exhibitors to the rule of the society which says, "No brood mare will be entitled to a premium unless free from all apparent defects capable of being transmitted."

Wm. Cogswell, O. S. Butler, David Stiles, H. G. Herrick, E. K. Lee.—*Committee.*

FAMILY HORSES.

The Committee report 17 horses entered for premium. Ten failed to appear. The Committee award:—

To O. S. Butler, of Georgetown, first premium, $12.

To Peter Holt, jr., North Andover, second premium, $8.

To Alfred C. Hill, Saugus, third premium, $6.

Peter D. Smith, D. A. Pettengill, Nathaniel Shatswell.—*Committee.*

STATEMENT OF O. S. BUTLER.

Entered for premium, Black Morgan mare, "Pettie." She was seven years old last August. Before commencing Spring work she weighed 1000 pounds; her weight now, is about 950 pounds. She is perfectly sound and free from all blemish. Her habits are perfect, on the plough, or in the cart, in the family carriage or in the stable. She is a good roadster and safe for any driver, woman or child, that can drive any horse. I think she is the most perfect young horse for all work that I have ever owned. Her Dam was a full blood Morgan. Her Sire was a cross with the Knox.

FARM AND DRAFT HORSES.

Your Committee would report 13 entries; 11 competitors contested; and recommend the following premiums:—

Wm. H. Butters, Methuen, first premium, $12.

J. Cashman, Newburyport, second premium, $8.

R. S. Bray, Newbury, third premium, $6.

Jonas Rollins, Danvers, fourth premium, $4.

J. A. Ilsley, Georgetown, gratuity, $3.

Peter Holt, jr., No. Andover, gratuity, $2.

Owing to lack of good management, or rather no management at all, we were delayed an hour waiting for a wagon with which to test the working qualities of the horses; and then, were obliged to procure one ourselves, or take a dump cart; and we didn't take the dump-cart.

In making the awards, the soundness and size, as well as

drawing and backing qualities were taken into consideration, and all were subjected to the same tests. Nearly every horse pulled well, but only two horses came up to the committee's standard in backing.

The purchase of a horse adapted to all the varied wants and uses of a farm is a matter of more than ordinary importance to the farmer who attempts it, for in this one animal are to be combined many and diversified qualities of superior excellence, and he who succeeds in such an undertaking is to be congratulated upon his acquisition.

It is hardly a generation ago when oxen were almost universally used upon the farms of Essex Co., but in that short space of time what a change has been wrought, what a revolution, so to speak, has there been in our whole system of agriculture. The iron bands of rails that have been extending through the broad prairies of the western country, now bring to the very doors of our New England homes, at a less price than we can raise them, the very products that our fathers, and we ourselves, thought to be the crops upon which we must put the most dependence. The farmer, who in previous years fatted his oxen during the winter months, and "turned them" at a good profit after the spring work was over, now finds that every market is filled with "Chicago dressed beef," and his accustomed profit has turned into an actual loss. But the enterprising Yankee farmer does not sit supinely down and mourn for the good times of the past. We accept the fact that "times change and men change with them," if they wish to keep atop in this progressive age. We realize that it is impossible to compete with the west and south in the production of corn, potatoes, pork and beef; hence a change is necessitated if we wish to make our business profitable. Fortunately a ready market for the more perishable crops, or those costly of transportation is always to be found in the large manufacturing towns, by which we are encircled; so the crops are changed, the oxen go, have gone, I almost said, and the horse takes and more than fills their place, for not only is the heavy farm work

done more rapidly but also with much greater ease to the owner. Young America cannot go plodding along in the same old ruts worn by his ancestors, and so the manure is teamed to the field in a four wheeled dump cart, on which is a comfortable spring seat for the driver; the sulky plow turns the furrow, the Ladow or the Randall harrow pulverizes the soil. The crops are hoed, the grass cut, the hay raked and carted to the barn, and all done by the horses, at a saving of more than fifty per cent of labor to the owner. And this is only the commencement of what the farm horse does for his owner; he furnishes the motive power for the milk wagon every day in the year; with him the crops are harvested, and marketed in the adjoining towns. He takes the family to the beach, the town, and to church; and at the annual fair well sustains his reputation as the best farm and draft horse. Was the change from oxen to horses made too soon, think you? Respectfully submitted,

Horace F. Longfellow, Asa T. Newhall, Geo. L. Hawkes.—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee on Pairs of Draft Horses submit the following report:—

There were fifteen pairs of horses entered, and fourteen pairs competed for premium. One of the competitors thinking the test too severe for a pair of young horses, did not allow them to draw. We regret that we used so large a trig, but after beginning with it thought it best to treat all alike. Since the ox has so generally given place to the horse on the farms in Essex county, the farmers manifest a growing interest in good horse teams, and the trial of draft horses has justly become one of the most interesting features of the fair.

Most of the horses exhibited were large, sound, well formed animals, bearing evidence of good care and training. Many

of them were as neatly groomed as any coach horse, decked with ribbons and with their clean harnesses with brass and ivory mountings, making altogether a very fine appearance.

While your Committee commend the competitors for their good taste and pride, in making a good show at the fair, and take special delight in seeing a pair of noble work horses in their gorgeous trappings, we are of the opinion that some of the horses would have performed better in their "every day clothes." For example:—one of the finest, if not *the* finest pair of horses exhibited, wore a new harness which had never been worked in, and which, in the judgment of the committee, was not properly adjusted; on this account, they failed to accomplish all they might have done had they been accustomed to their harness. Again, some of the horses which have always worked in blinders were shown in open bridles. We fully believe in open bridles for work horses. They are lighter, more comfortable, and look better, but horses must become accustomed to them before they will behave just as well as they did in blinders.

In hitching a pair of horses to a load they should be hitched as near the whiffle-tree as they can work without touching, with the breeching just loose enough to allow the horse the free use of his legs. It is a common mistake to let the breeching down so low that in backing, the horse is set on his haunches and is unable to move the load; and in holding the load, down hill, it has a tendency to draw the hind legs together, causing him to interfere.

It is evident to the committee that in matching work horses too much attention is paid to the size and color, to the neglect of some of the more important requirements. It is necessary, in order to have a perfect working team, that the horses should be as nearly as possible of the same temperament, taking care never to mate a high spirited, nervous horse with a slow, stupid creature that has no ambition to do his part. They should also have the same gait, as a long gaited horse and one that naturally steps short and quick can never

work evenly together. One horse may be many pounds lighter than another and still have as much strength and be able in every way to do as much work.

We think the farmers are ambitious to get too large work horses; we believe that for all ordinary farm work a pair of horses that are well formed and when in fair condition weigh about twenty-two hundred, is about the right size.

The quiet way in which the horses were all handled, was very gratifying to the committee. While we believe that a little judicious whipping is sometimes necessary, we most earnestly urge all teamsters to treat their horses kindly. A team, to be of the greatest possible value to a man must be entirely under his control, and still love and confide in him.

After witnessing the performance of so many fine working teams, the committee find it no easy task to award three premiums, and we regret that there are no more premiums at our disposal. We would recommend the horses entered by Jeremiah Cashman of Newburyport, Oliver Stevens of North Andover, W. J. Mansfield of Haverhill, Edward Adams, and Rea brothers of North Andover, as being worthy of especial mention.

We award the first premium of twelve dollars to Edward P. Perley, of Danvers; the second premium of eight dollars to Thomas Sanders, of Haverhill; the third premium of four dollars to A. P. Fuller, of North Andover.

PETER HOLT, JR,
Chairman of Committee.

COLTS—FIRST CLASS.

The Committee award as follows.—

To B. G. Gutterson, Methuen, for colt 4 years old, first premium, $10. To Joseph Newell, West Newbury, for colt 4 years old, second premium, $6.

To Albert C. Heath, Haverhill, for colt 3 years old, first pre-

mium, $8. To F. G. Hunkins, Haverhill, for colt 3 years old, second premium, $5.

B. F. Jenkins, John E. Herrick, J. M. Danforth, R. Jaques —*Committee.*

COLTS—SECOND CLASS.

The Committee award to H. M. Coburn, Methuen, for 2 year old colt, first premium, $6. To T. S. Ruddock, West Newbury, second premium of $4.

To Peter Holt, Jr., No. Andover, for yearling colt, first premium, $6. To M. O. Luce, Haverhill, second premium, $4.

R. Ward, H. Little, D. A. Pettengill.—*Committee.*

SWINE—FIRST CLASS.

The Committee make the following awards :—

To Thomas Sanders of Haverhill, for large Yorkshire Boar, first premium, $10.

To Geo. H. Plummer, Newburyport, Poland China, second premium, $6.

To Jeremiah Cashman, Newburyport, W. Chester Breeding Sow, first premium, $10.

To Jacob L. Farnham, No. Andover, Grade Berkshire, second premium, $6.

To Danvers Insane Hospital, Weaned Pigs, first premium, $10.

To Thomas Sanders, Haverhill, Weaned Pigs, second premium, $6.

C. C. Blunt, M. S. Jenkins, Geo. Buchan, C. R. Anderson. —*Committee.*

SWINE—SECOND CLASS.

The Committee report:—

To Alfred M. Trask, Danvers, for small Yorkshire Boar, first premium, $10.

To Alfred M. Trask, Danvers, small Yorkshire Breeding Sow, first premium, $10.

To Alfred M. Trask, Danvers, Weaned Pigs, first premium, $10; second premium, $6.

To C. H. Poor, Bradford, small Yorkshire Boar, second premium, $6.

To T. O. Wardwell, No. Andover, small Yorkshire Breeding Sow, second premium, $6.

A. L. Morse, Asa M. Bodwell, A. Perley Johnson.—*Committee.*

SHEEP.

The Committee on Sheep have attended to their duty and report as follows:—

Mr. Thomas Sanders, of Haverhill, for best flock of ten thorough-bred Atwood Merinos, first premium, $10.

Joseph Newell, West Newbury, best lot of lambs, first premium, $4.

Joseph Newell, West Newbury, best Buck, first premium, $8.

The subject of sheep husbandry, always one of the greatest importance to the whole farming community, is receiving such additional interest and attention at this time from various causes, that, in my opinion, it should occupy a more extended space in Essex county.

In Massachusetts there are about 68,000 sheep; an increase of about 8,500, since 1875. With this increased number, it is a self-sustaining fact that there is a very decided impression among the farmers in every part of the State, to enter more

generally into this most profitable and pleasant branch of our farm industry.

The system of registry is quite perfect, and I think a Sheep Breeder's association might be formed in Essex County, as well as in many localities in other States, which are doing a most useful work.

A few years ago I was in Vermont for a short time; while there I passed most of my time with one of the representatives to the Legislature; he was a successful farmer and kept quite a number of sheep, and from him I got some good ideas as to the industry in that vicinity; he said that the breeding of fine merino sheep was an extensive industry, embracing among its supporters purchasers from the Middle and Western States, Texas, California, New Mexico, and other wool-producing sections.

In considering the comparative values of the different breeds of sheep, from a wool standpoint, it is clearly evident that the most profitable to the grower, are the fine-wooled sheep, either the high grade Merino or the pure blood; and, furthermore, for the past few years there has been an increasing tendency towards the production of a finer class of goods.

The prosperity of the country has created a demand for better clothing, and so long as we can look forward to continued success in our great agricultural and industrial enterprises, there is little prospect of a retrograde movement towards cheaper fabrics.

No clearer evidence of the prevailing demand for better woollens is shown, than in the case of one of the largest corporations in New England, whose machinery is adapted to, and whose consumption consists in, the working of medium and low-combing wools. The prosperity of this mill in past years has been so great that its shares of stock were worth, a year and a half ago, about threefold their par value; whereas, the decline in prices of low grade goods during the past eighteen months, has depreciated the stock from that point more than thirty-five per cent.

In closing, I would say, emphatically, to those of you who have been breeding the coarser wools, or who have been negligent as to quality of your flocks, lose no time in raising the standard of your wool; cull out the defective sheep, replace them with full bloods or high grades, and use the thorough-bred Merino rams for the increase.

E. C. Farwell, *Chairman.*

STATEMENT OF THOMAS SANDERS.

I enter for premium, a flock of ten thorough-bred Atwood Merino Sheep,

"Ewes, from Flock No. 19, labelled E. W. Farwell transferred to me on the books of the Vermont Atwood Merino Sheep Club, Nos. 30, 40, 45, 63, 69, 70, 72, 73, 75, and Ram, from Flock, No. 33, labelled O. & E. S. Hall, transferred to me as above, No. 166." I desire to call the especial attention of the Committee to this flock, the ewes of which are directly descended from a flock owned by me twenty years ago, in Vermont, and from which I realized the handsomest profit I ever derived from any animals. This flock sheared as follows in April, 1882:—

No. 30,	8 lbs.	No. 70,	8½ lbs.
No. 40,	9 lbs.	No. 72,	8¼ lbs.
No. 45,	9½ lbs.	No. 73,	10 lbs.
No. 63,	9 lbs.	No. 75,	9¼ lbs.
No. 69,	10½ lbs.	No. 166,	19¾ lbs.

Making 101¾ lbs, from the ten; an average of over 10 lbs. per head.

If such sheep can be raised in this county it will be a great source of revenue to farmers.

Thomas Sanders,
per H.

Birchbrow Farm.

POULTRY—FIRST CLASS.

The Committee award as follows :—

To William Sawyer, Georgetown, L. Brahma chicks, first premium, $3.00.

To E. Frank Webster, Haverhill, Buff Cochin Fowls, first premium, $3.00.

To E. Frank Webster, Haverhill, Black Cochin Chicks, first premium, $3.00.

To Charles A. Andrew, Boxford, Emden Geese, first premium, $2.00.

To George G. Pierce, West Newbury, Grey China Geese, first premium, $2.00.

To Chas. A. Andrew, Boxford, White China Geese, second premium, $1.00.

To George K. Hale, Haverhill, Grey China Geese, second premium, $1.00.

To George G. Pierce, West Newbury, Rouen Ducks, second premium, $1.00.

To H. C. Nevins, Methuen, Bronze Turkeys, first prem., $2.

To Geo. K. Hale, Haverhill, Bronze Turkeys, second premium, $1 00.

To C. A. Andrew, Boxford, Toulouse Geese, first prem., $2.

To Geo. G. Pierce, West Newbury, Muscovy Ducks, second premium, $1.00.

To H. C. Nevins, Methuen, Pekin Ducks, first prem., $2.00.

To E. Frank Webster, Haverhill, Pekin Ducks, second premium, $1.00.

To H. C. Nevins, Methuen, White Turkeys, second pre., $1.

To E. F. Webster, Haverhill, Bronze Turkeys, gratuity, $1.

To H. C. Nevins, Methuen, Narragansett Turkeys, first premium, $2.00.

J. O. Parker, H. C. Fegan, R. G. Buxton.—*Committee.*

POULTRY—SECOND CLASS.

The Committee award as follows:—

To Geo. H. Smith, Haverhill, Plymouth Rock Fowls, first premium, $3.

To Willard L. Fisk, Saugus, Plymouth Rock Fowls, second premium, $1.50.

To G. Howard Smith, Haverhill, Plymouth Rock Chicks, first premium, $2.

To C. H. Hill, Haverhill, Brown Leghorn Fowls, first premium, $3.

To H. G. Ingersoll, Haverhill, Brown Leghorn Chicks, second premium, $1.

To Geo K. Hale, Haverhill, Clayborn Game Fowls, second premium, $1.

To W. P. Libby, Groveland, Dominique Chicks, second premium, $1.

To H. C. Fegan, Groveland, Black Red Game Bantam Fowls, first premium, $2.

To John Swinerton, Danvers, Black Red Game Bantam Fowls, second premium, $1.

To John Swinerton Danvers, Black Red Game Bantam Chicks, first premium, $2.

For trio of fowls in this class with statement of produce for one year, with cost of feeding, showing profit. No competitors.

Your Committee having had considerable experience in breeding poultry, for flesh and eggs, believe there is nothing produced on the farm that pays a greater percentage upon the capital invested, than fowls, if proper attention is paid to breeding, feeding and housing. Yet Essex County farmers, with a ready market at their doors for all they can produce in this line, appear to be rather averse to such enterprises.

GEO. W. CHADWICK, *for the Committee.*

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams, at the late fair, make the following report:—

The land was not favorable for good work, but your Committee concluded to give the first premium, of twelve dollars, to Bray & Little. The second, of ten dollars, to B. H. Farnum.

C. H. Nichols, *Chairman.*

PLOUGHING—SINGLE TEAMS.

The Committee report but one entry made for premium with single ox team; the team of Charles J. Peabody of Topsfield.

The Committee award to Charles J. Peabody, of Topsfield, the second premium, of $7.

Mr. Peabody being the only person making an entry in this class, the committee did not feel that it was their duty to award him the first premium, simply because he was the only competitor, as the work was not perfectly done.

The land on which Mr. Peabody ploughed was of varied texture, a part of the land being very good land to plough, and was well done; a part being full of small stone, which made it impossible to make good work with a single team; and still another part of the land having a tough sod, producing a sort of water grass or hassocks. The heavy rains of the past week rendered the land in very good condition to plough.

Mr. Peabody had a good plough, the Hussey, No. 15, and evidently knew how to hold it. He managed to get the required depth of six inches on all his land, and where the land was good from 7 to 8 inches in depth. Taking it as a whole, the work was very well done.

His team weighed about 3150 lbs., and was well trained, and perfectly under the control of the ploughman. The

nature of the soil was such that a double team, and a heavier plough would have done much better work.

The Committee regret very much that there were not more entries, by which we could have compared the working of the different competitors.

Horace C. Ware, Albert Kimball, Alvin Smith, William Bradstreet.—*Committee.*

PLOUGHING WITH HORSES.

The Committee on Ploughing with Horses, report that there were seven entries for premium, and they recommend the award of the following premiums:—

To R. S. Bray, (Wm. E. Young, ploughman), of Newbury, the first premium, $12.

To T. O. Wardwell, North Andover, second premium, $10.

To Paul T. Winkley, Jr., Newburyport, third premium, $8.

To Patrick Kiely, Hamilton, fourth premium, $6.

To Chas. N. Maguire and Moses H. Poor, West Newbury, fifth premium, $4.

Jos. S. Howe, *Chairman.*

PLOUGHING—SWIVEL PLOUGH.

The Committee on Ploughing with Swivel Plough, in making their report, would say that five teams were entered for premium, viz., two ox teams and three horse teams.

Horse teams entered were Edward P. Perley, two horses; plough used, Pettingell, No. 3; and the Committee award to him the first premium of $10.

Jonas Rollins, of Danvers, used a Granger Plough, and we award to him the second premium of $6.; it was also a two horse team.

Oliver Stevens of North Andover, made the other entry. Mr. Stevens made very good work, and the committee would

have been very glad to make another award had they one at their disposal.

Ox teams entered were,—Charles Hazeltine, of Bradford, team, four oxen ; plough used, was I. X. L., No. 8, and the Committee award him the second premium of $10.

Town of North Andover and B. K. Farnum entered one pair of oxen and one pair of steers; plough used was I. X. L. No. 6. Although the plough was smaller than Mr. Hazeltine's, yet it turned a larger furrow and did better work, as it appeared to the Committee. Mr. Hazeltine claimed that he ploughed deeper than the team from North Andover, yet the Committee failed to see much difference by measure; both complied with the rules of the Society, viz., 8 inches; and the Committee award to Town of North Andover and B. K. Farnum, the first premium, of $12

We were unanimous in all the above awards.

As the Committee looked over the field, and saw so much larger number of horse-teams than of ox-teams engaged in the ploughing match, they would recommend that one of the premiums now offered for ox-teams be hereafter offered for horse-teams ; that is, three premiums for ox-teams and also three for horse-teams. This recommendation only applies to Swivel Plough premiums. Respectfully submitted,

Abel Stickney, Otis F. Putnam, Abel S. Harriman.—*Committee.*

PLOUGHING WITH FOUR HORSES.

The Committee award as follows:—

To H. F. Nason, West Newbury, first premium, $10; Land Side Oliver Chilled Plough.

To Wm. A. Russell, Lawrence, first premium, $10 ; Swivel Plough, Matchless, No. 8.

A. L. Moore, J. N. Rolfe, J. E. Herrick.—*Committee.*

SULKY PLOUGHS.

The Committee award as follows:—

To Frank Perkins, Newbury, with Cassady Plough, first premium, $10.

To Geo. G. Creamer, Hamilton, with Wiard Plough, second premium, $5.

There were two entries, the "Wiard," by George J. Creamer of Hamilton, and the "Cassady," by Frank Perkins of Newbury. We awarded the premium to Mr. Perkins for the Cassady, but if the Wiard had finished its dead furrow as well as it performed the rest of its work, the result might have been different. The Cassady seemed of easier draft than the Wiard, but did not turn the furrow so well, leaving it up on its edge, which is a very objectionable feature. The lots were very rough and stony, but neither of the ploughs were thrown out by the stones, the weight of the operator keeping the ploughs down where they belonged. After the trial was over, your committee requested Mr. Richard S. Jaques, the veteran ploughman, who has taken more first premiums than any other member of the society, to turn one furrow, that we might see his "Lion" plow, and four ox team, in direct competition with the "Sulky," and one pair of horses. Mr. Jaques' plow was thrown out, at least, a half dozen times, and the draft was certainly very much harder, and yet his furrow was not so wide by three or four inches. Said Mr. Jaques, after completing his furrow: "The 'Sulky' is the plough of the future, without doubt." Whilst agreeing fully with Mr. Jaques, of its being the plough of the future, we would not be understood as recommending it to be particularly adapted to the wants of the large majority of our Eastern farmers. In fact, in its present state or condition, it is not, for the advantages it possesses over the common plough, are more than overbalanced by some of its disadvantages. The high price alone, places it beyond the reach of most of us—the wear and tear on a Sulky and the interest on its cost, ($50.00), would hire the most of the

ploughing done by our ordinary farmers—then the storage takes too much room. Until these, and some of the minor objections, such as the inability to plough close to a wall, or even to a tree in the centre of a field, are removed or modified, your committee would not advise any farmer to purchase a Sulky plough, unless he first tries and proves its superiority and adaptability to his own farm. Respectfully submitted,

Horace F. Longfellow, Albert S. Brown, Frank Marsh, Asa T. Newhall, Sidney F. Newman.—*Committee.*

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements have attended to their duty and report as follows :—

For best collection of Agricultural Implements, Fellows & Co., Haverhill, first premium, $15.

Hanscom Bros., Haverhill, gratuity, $10.

American Evaporator, Henry Merrill, West Newbury, gratuity, $5.

Everett & Small, Cooly Creamer, Swing Churn, Seed Drill, gratuity, $5.

Henry Newhall, Boxford, Ox and Horse Shoes, gratuity, $3.

John L. Shorey, David Warren, David W. Low.—*Committee.*

CARRIAGES.

The Committee report :—

To E. P. Sargent, Merrimac, for carriages, Diploma and $15.

T. W. Lane, Amesbury, Buggy and Springs, gratuity, $10.

To C. S. Hill, No. Andover, Express Wagon, gratuity, $6.

To G. E. Daniels, Rowley, Express Wagon, gratuity, $4.

Thomas K. Leach, David Smith, H. H. Spofford.—*Committee.*

DAIRY.

The Committee on Dairy submit the following report, viz.:

BUTTER.

First premium, Mrs. S. A. Stewart of Middleton, $10.

Second premium, F. W. Poore, of Haverhill, $8.

Third premium, S. L. Ridgway, of West Newbury, $6.

Fourth premium, A. L. Hazeltine of Haverhill, $4.

Under Sec. 4, for greatest produce of Milk, &c., to F. P. Todd, of Rowley, they award $25.

John A. Putnam, H. K. Moody, Andrew Lackey, Aaron Sawyer.— *Committee.*

STATEMENT OF FRANK P. TODD.

I enter for a premium for the greatest product of milk in proportion to the number of cows, not less than four in number, for one year from April 1, 1881 to April 1, 1882.

When I began to weigh the milk at each milking it was not with the object of a premium. My object was to ascertain the amount of milk a cow would give, also to ascertain the difference in cows. I thought we might have cows that would not pay for their keeping, and have continued weighing the milk to the present time, hoping by such means to make improvements in the herd, and by raising calves from the best milkers, crossed with an Ayrshire bull, as we consider the Ayrshire well adapted to our uses. The farmers in this part of the county are obliged to use a large proportion of salt hay, and I think a variety of feed is advisable, such as English and salt hay, and rowen, with corn and oat fodder; this, with some grain, will keep milch cows in fair condition, provided they have good care. I think they should be watered twice a day, when confined in the barn, and that it should be done immediately after eating, as they will drink more if they are not allowed to stand and chew the cud. They should not be allowed to stand out unless in mild weather, and then in the sun. They should be carded every day, and if so, it can be done easily and quickly.

The farmers in this vicinity suffer quite a loss every year on account of flies, particularly the *green heads*, as it is not uncommon for cows to shrink one-half in their milk, in July, from this cause. The following is a description of the herd, manner of keeping, and product:

Cow No. 1, is grade Ayrshire, age 12, calved March 6, 1881, bore twin calves; last calved, Feb. 7, 1882; and gave 5203 pounds of milk in the year.

No. 2, grade Ayrshire, age 9, calved Oct. 1, 1880; last, Aug. 18, 1881; due to calve, Nov., 1882; gave 5331½ pounds of milk in the year.

No. 3, grade Ayrshire, age 9, calved, Dec., 1880; last, Nov. 22, 1881; due to calve, Oct. 10, 1882; gave 4374 pounds of milk in the year.

No. 4, Native, age 13, calved Aug. 12, 1880; last, Aug., 1881; gave 4293 lbs. of milk in the year.

No. 5, Ayrshire, age 13; calved, Nov., 1880; last, Nov. 24, 1881; due Dec. 21, 1882; gave 5908 pounds of milk in the year.

No. 6, Grade Ayrshire, age 6; calved, April 8, 1881; last, July, 1882; gave 5877 pounds of milk in the year.

No. 7, Native, age 14; calved, March 23, 1881; farrow; gave 6366 pounds of milk in the year.

No. 8, Native, age 7; calved Jan., 1881; last, Jan., 1882; due, March, 1883; gave 5874 pounds of milk in the year.

No. 9, Grade Ayrshire, age 5; calved, Sept., 1880; last, Oct, 6, 1881; due, Oct., 1882; gave 5495 pounds of milk in the year.

No. 10, Native, age 6, last calved, Nov. 10, 1881, by accident before her time; gave 4933 pounds of milk in the year.

No. 11, Grade Ayrshire, age 2½ years; calved Feb., 1881; last calved, July, 1882; gave 4426 pounds of milk in the year.

April, 1881. The cows have been fed with salt hay in the morning after milking, English hay at noon and before milking in the afternoon, and salt hay at night. Three quarts of cob

meal and four quarts of shorts have also been fed daily. The eleven cows have given during the month, 5973 pounds of milk.

May, Feed the same as in April, except that after the 20th, they had no hay or grain, but only grass. The eleven cows gave 6378 pounds of milk during the month.

June. Feed, grass. The eleven cows have given 6166 pounds of milk during the month.

July, Feed, grass. The eleven cows have given 4518 pounds of milk during the month.

August. Feed, grass. The eleven cows have given 4291 pounds of milk during the month.

September. Feed, corn fodder after coming from the pasture, and in addition, one peck of windfall Baldwin apples, daily. The eleven cows gave 4383 pounds of milk during the month.

October. Feed, same as last month. The eleven cows have given 3848 pounds of milk during the month.

November. Feed in the field till the 22d; after, salt hay, corn and oat fodder, and 2 quarts cob meal and 4 quarts shorts, daily. The eleven cows gave 3563 pounds of milk in the month.

December. Feed, hay as last month, with two quarts cob meal, 4 quarts of shorts and 1 quart cotton seed meal daily. The eleven cows gave 4638 pounds milk in the month.

January, 1882. Feed same as last month. The eleven cows have given 4843 pounds of milk in the month.

February. Feed same as last month, except that they have had 2 quarts of cob and 2 quarts cotton seed meal daily. The eleven cows have given 4921 quarts of milk during the month.

March. Feed same as last month, with the exception of an addition of a feed of rowen, daily. The eleven cows have given 6244 lbs. of milk in the month.

Total number of pounds of milk given by each cow, for the year ending April 1, 1882 :—Cow No. 1, 5133 lbs.; No. 2, 5220 lbs.; No. 3, 5546 lbs.; No. 4, 4993 lbs.; No, 5, 5908 lbs.;

No. 6, 6518 lbs.; No. 7, 6366 lbs.; No. 8, 5874 lbs.; No. 9, 4790 lbs.; No. 10, 4858 lbs.; No. 11, 4426 lbs. *Total*, 59,635 lbs. Average per cow, 5421 lbs.—including No. 11—the heifer; excluding No. 11, average 5963 lbs., or 2806 quarts, each.

Average number of cans of 8 1-2 qts., from each cow,	331
Average price per can for the year,	25 1-2 cts.
Income from each cow,	$82.75

Estimated cost of keeping cows for the year, each :—

1½ tons Salt Hay,	$16.50	
½ ton Corn Fodder,	6.00	
½ ton English hay,	10.00	
Pasture,	10.00	
Corn Fodder and fall feed,	5.00	
Grain,	15.00	62,50
Profit,		$20.25

BREAD, HONEY AND CANNED FRUITS.

Your Committee had under their consideration in this department 35 entries ; 21 loaves of Bread, 4 entries of Honey, 8 of Canned Fruits, 1 of Jelly and 2 of Pickles, from 30 contributors, for which the Committee make the following awards:—

BREAD.

To Mrs. Abby Green, Salisbury, first premium,	$3.00
Miss Nelly Connelly, Haverhill, second premium,	2.00
Miss Agnes Welch, Bradford, third premium,	1.00
Mrs. D. R. Parker, Groveland, gratuity,	.50
Mrs. John Day, Boxford, gratuity,	.50
Miss Bertha Bradley, Haverhill, gratuity,	.50
Mrs. Littlefield, Haverhill, gratuity,	.50

HONEY.

To H. Alley, Wenham, first premium,	$3.00
Alfred Green, Salisbury, second premium,	2.00
E. B. Ayer, Haverhill, gratuity,	.50
F. W. Poor, " "	.50

DRIED APPLES.

To Mrs. John Day, Boxford, first premium, $3.00

CANNED FRUIT.

To Mrs. George W. Ladd, Bradford, first premium, $3.00
Mrs. J. M. Littlefield, Haverhill, second premium, 2.00
Mrs. M. E. Fuller, Middleton, copy, "Birds of N. E."
Mrs. N. E. Ladd, Groveland, copy, "Birds of N. E."
E. P. Fowler, Haverhill, gratuity, .50
Mrs. S. P Bradley, gratuity, .50

PICKLES.

To M. E. Fuller, Middleton, gratuity, .50

JELLY.

To Mrs. G. W. Ladd, Bradford, gratuity, .50

Mrs. Charles Perley, Mrs. J. Henry Hill, Mrs. P. B. How. —*Committee*

STATEMENT OF MRS. GEO. W. LADD.

Cucumber Pickles.

Rinse clean ½ bushel of cucumbers, then add a large pint of salt and cover with hot water; repeat this for three mornings, then pour into a basket to drain, place them in a tub and cover with good cider or weak vinegar, to which has been added one teaspoonful of powdered alum to every gallon. This should be poured over the cucumbers boiling hot, and repeated three mornings, then drain and pack in stone jars, with ten good sized peppers, (cut open), cover with cold vinegar to which has been added one tablespoonful of cloves, one of cassia, and one of allspice, and they are ready for use in two days. Pickles made in this way will keep two years without changing the vinegar.

Jelly.

All kinds of Berries, Currants, &c., I place in a preserving kettle and add just water enough to prevent burning. Let them cook slowly until the goodness is extracted from the

fruits, then place a seive over an earthen vessel, and pour the fruit into this to drain. Then strain the liquid, and to every pint of juice, add one pint of granulated sugar, place it in a preserving kettle and boil until it becomes jelly. I cannot give any stated time, as it takes much longer for some kinds of fruits than for others. When sufficiently cooked strain into tumblers and cover when cool. Jelly made from Apples, Pears, Peaches, Plums, Rhubarb, Crab Apples, Oranges, Pine Apples, &c., &c.; the fruit should be peeled and cut into small pieces, then placed in a preserving kettle and covered with water and cooked until very soft, and drained through a seive. Place the liquid in a preserving kettle, and boil thirty minutes, then strain, and to every pint of juice add one pint of granulated sugar. Then cook until it becomes jelly. I never use gelatine in any kind of fruit jelly.

Canned Fruits.

My method of canning fruits is this:

As the season of ripe fruits advances, I prepare such quantities of syrup as I think I may need, in this way:—Three pounds of granulated sugar to one gallon of water and boil twenty minutes; this I put in glass jars, when cool, and set away for future use.

Peaches, Pears, Apples, Plums, Pine Apples, Rhubarb, Crab Apples, and in fact all fruits of this kind, I peel, quarter and place in a dish of cold water (to prevent discoloration), until I have prepared enough to fill a jar; I then pack them solid as possible in a jar; then fill the jar with the syrup previously prepared. I then place a wire stand in the bottom of my preserving kettle, on which to place the jar, then fill the kettle with cold water, until the jar is two-thirds covered; leave the jar open, but cover the kettle, and boil until the fruit is sufficiently soft; have ready a little boiling syrup, if needed, to fill the jar full to overflowing. Then place the rubber band around the neck of the jar and screw the cover on as tightly as possible, then in from three to five minutes give the

cover another turn, in order to be sure it is air-tight, and you will have no more trouble with it.

I use Mason's Jars, metalic porcelain covers.

Berries and Small Fruits.

My method of canning all kinds of berries and small fruits is this. Place the fruit in a preserving kettle, and then add just water enough to prevent burning, and boil from five to ten minutes, then place a wet towel around and under the jar, then fill the jar with the boiling fruits and seal immediately. I do not use any sugar until I open them for the table. The present year I have canned one hundred and fifty jars, and have not broken a single one.

STATEMENT OF MRS. N. E. LADD.

Experience teaches that the *surest* way of canning fruit successfully, is to place the fruit in jars, sweeten to taste, then put the jars in a kettle of cold water, gradually heating until it boils; when the fruit is sufficiently cooked, turn on the covers while in the boiling water, having the jars so full that the juice will run over as the covers are screwed on.

Pears and peaches can be put up in this way, with no liquid but their own juice.

STATEMENT OF M. E. FULLER.

For Peaches and Pears. I throw the fruit into cold water as soon as the skins are removed, then add to the quantity for filling one quart jar about three tablespoonfuls of sugar; let this cook slowly until done, which usually takes about twenty minutes, then heat jar and fill while hot, letting cover remain off about five minutes after filling. For berries I do the same, only less water; and other fruits usually more sugar, according to the tartness of the same.

STATEMENT OF MRS. A. J. GREEN.

The Bread I exhibit is made as follows:—Two quarts of

cold water, two cups of yeast, (common potato yeast used), flour (St. Louis) to mold, raised over night, kneaded about fifteen minutes in the morning, made into loaves, and allowed to rise about one hour before baking. The bread exhibited is twenty-four hours old.

STATEMENT OF HENRY ALLEY.

To Committee on Bees, Honey, etc.,

The Honey I exhibit is a part of what one strong hive of bees stored this season. It was mostly gathered from white clover, but is of rather a poor quality, as compared with that gathered some seasons. The extracted honey was taken from the body of the hive, and removed from the combs by the extractor, and is a mixture of white clover and apple blossoms. It is a fair quality of honey, considering the season. No fall honey was gathered until the 18th, 19th, and 20th of September, as that was all stored in the brood combs in the main hive or brood nest. I do not exhibit any of it as I do not care to disturb my bees so late in the season.

The hives I use are what are known as the "Langstroth Movable Comb Hive." This style hive is considered the best in use, and certainly is the best one for surplus honey. I had in the spring 38 of these hives in use, but have reduced my number of colonies to 28, by sale and otherwise. The hive the comb honey was taken from stored about fifty pounds surplus. This one hive (a strong colony of Cyprian bees) was two and a half miles away from my home apiary and in a favored locality, there being no other bees within two and a half miles of them, and that is why they stored 50 pounds more honey than my other stock. This one colony is the only one that stores anything in boxes. Most of my bees are used for rearing queen bees. Have raised and sold about 800 queen bees, at an average price of $1.25 each. Most of these queens are shipped by mail, and they go safely into every state in the Union. I exhibit the cages, or boxes, that they are sent in.

The little hive of bees is to show and exhibit the three sexes of bees found in all hives from May to October. The queen is the mother of all; she lays all the eggs. The worker bees gather the honey pollen and feed the young. The drone is the male bee and the largest bee, and is stingless.

STATEMENT OF MRS. JOHN DAY.

I present for your inspection two varieties of dried apples—Baldwin and Porter—six pounds or more. The apples were pared with an apple parer, cut by hand and strung and dried in the open air. Three bright sunny days will dry then sufficiently.

PEARS.

For the best twelve specimens of the following varieties:—

Bartletts, Herbert B. Kimball, Bradford,	$3.00
Bell Lucrative, W. W. Perkins, Newbury,	3.00
Beurre Bosc, Henry Alley, Wenham,	3.00
Buerre de Anjou, Herbert B. Kimball, Bradford,	3.00
Clapp's Favorite, J. Henry Hill, Amesbury,	3.00
Duchesse de Angoleme, John O'Brien, Bradford,	3.00
Dana's Hovey, J. H. Hill, Amesbury,	3.00
Glout Morceau, Z. C. Wardwell, Groveland,	3.00
Lawrence, J. O'Brien, Bradford,	3.00
Louise bon de Jersey, George E. Kimball, Bradford,	3.00
Onondaga, J. Henry Hill, Amesbury,	3.00
Paradise de Autumn, George Pettengill, Salem	3.00
Seckel, J. Lee, Haverhill,	3.00
St. Michael Archange, George Pettengill, Salem,	3.00
Sheldon, George E. Kimball, Bradford,	3.00
Urbaniste, W. W. Perkins, Newbury,	3.00
Vicar of Winkfield, George Pettengill, Salem,	3.00
Winter Nellis, C. P. Savory, Groveland,	3.00
Mt. Vernon, John Lee, Haverhill,	3.00

For best dish of twelve specimens, deemed worthy by the Committee, premium awarded as follows :—

Souvenir de Congress, John O'Brien, Bradford, $1.50

For best collection of largest number of varieties recommended for cultivation in Essex County, premiums awarded as follows :—

Edwin V. Gage, Bradford, first premium of 8.00
T. C. Thurlow, West Newbury, second premium of 6.00
J. Henry Hill, Amesbury, third premium of 4.00

Gratuities awarded as follows :—

M. M. Ridgway, Vicar of Winkfield, West Newbury, $1.00
George Fisk, Newbury, Bartletts, 1.00
J. J. Marsh, Haverhill, Beurre Diel, 1.00
Albert Kimball, Bradford, Doyenne Bossock, 1.00
C. P. Savory, Groveland, Beurre Superfin, 1.00
E. F. Curtis, Groveland, Swan's Orange, 1.00
George E. Kimball, Bradford, Seckel, 1.00
H. W. Balcomb, Salem, Sheldon, 1.00
Z. C. Wardwell, Groveland, Onondaga, 1.00
C. P. Savory, Groveland, Lawrence, 1.00
J. J. Marsh, Haverhill, Buerre de Anjou, 1.00
T. C. Thurlow, West Newbury, Dutchess, 1.00
John Lee, Haverhill, Beurre Bosc, 1.00
John Lee, Haverhill, Bartletts, 1.00
C. W. Killam, Boxford, Flemish Beauty, "Birds of New England."
R. Webster, Haverhill, for collection, gratuity of $1.00.

W. H. B. Currier, Peter M. Neal, George Pettengill, E. P. Hale.—*Committee on Pears.*

APPLES.

12 best specimens of the following, $3 each:

Baldwin, B. F. Huntington, Amesbury; Danvers Winter

Sweet, S. B. George, Groveland ; King of Tompkins Co., John Taylor, Amesbury ; Granite Beauty, J. Henry Hill, Amesbury ; Talman's Sweet, Wm. W. Perkins, Newbury ; Bailey Sweet, J. Henry Hill, Amesbury ; Drap'd Or, S. M. Titcomb, West Newbury ; Hubbardston Nonsuch, Geo. W. Chadwick, W. Boxford ; Porter, B. Flanders, Haverhill ; Roxbury Russet, D. M. Cole, W. Boxford ; R. I. Greening, Geo. W. Chadwick, W. Boxford ; Sweet Baldwin, Chas. Perley, W. Boxford ; Gravenstein, D. M. Cole, W. Boxford ; Hunt's Russet, S. B. George, Groveland.

$1.50 each to Geo. W. Chadwick, Boxford for Late Harvest ; T. G. Ordway, West Newbury, for Beefsteak ; J. H. Hill, Amesbury, for Washington ; J. N. Rolfe, Newbury, for 20 oz. Pippin.

Best collection of Apples, recommended for cultivation in Essex Co., E. A. Emerson of Haverhill $8 ; second best collection, W. H. Morse, Haverhill $6 ; third best collection, J. Henry Hill, Amesbury, $4.

Best Crab Apples, Mrs. E. F. Curtis, Groveland, $1.50 ; Chas. Perley, Boxford, $1.50 ; Richard Webster, Haverhill, $1.50.

Best collection Crab Apples, three varieties ; J. Henry Hill, Amesbury, $5.

Gratuities of $2 each to W. Parker, Groveland ; John O'Brien, Bradford ; Z. C. Wardwell, Groveland.

Gratuities of $1.50 each to Wm. W. Perkins, Newbury ; B. F. Huntington, Amesbury ; T. K. Bartlett, Newburyport ; Amos Hazeltine, Haverhill.

Gratuities of $1. each to S. B. George, Groveland ; Thos. J. King, West Newbury ; S. F. Newman, Newbury ; S. P. Currier, East Haverhill ; E. L. Sides, So. Groveland ; E. B. George, Groveland ; J. Henry Hill, Amesbury ; Andrew Lackey, Haverhill ; Frank Perkins, Newbury ; Daniel Plummer, Newbury ; W. P. Horner, Georgetown ; Geo. W. Sargent, Merrimac ; Moses H. Poor, West Newbury ; Geo. W. Titcomb,

West Newbury; S. P. Bradley, Haverhill; M. M. Ridgway, West Newbury; J. A. Hoyt, Georgetown; A. Very, Danvers; O. Dow, Methuen.

T. C. Thurlow, *for the Committee.*

PEACHES, GRAPES AND ASSORTED FRUITS.

The Committee award as follows:—

To G. W. Gage, Methuen, for Concord, Worden, Cottage, and Rogers' 39, premiums of $3 each, $12.00

To G. W. Gage, for collection of Grapes, premium, 7.00

G. W. Gage, for basket of Assorted Fruit, premium, 4.00

T. H. Watson, Groveland, Brighton Grape, premium, 3.00

E. Greenough, Groveland, Hartford Grape, premium, 3.00

Moses B. Abbott, Andover, Isabella Grape, premium, 3.00

W. H. Hopkinson, Groveland, Delaware Grape, prem., 3.00

T. C. Thurlow, W. Newbury, Martha Grape, premium, 3.00

Geo. S. Smith, Haverhill, Moore's Early " " 3.00

Mrs. Lewis Verry, Danvers, Massasoit " " 3.00

J. J. Marsh, Haverhill, Cold House " " 6.00

Allen Barr, Lawrence, 4 varieties of Grapes, copy of Birds of New England.

To R. Goodwin, Haverhill, Hartford and Concord Grapes, gratuity, $2.50

To John Lee, Haverhill, Lee's Early Grapes, gratuity, $1.50

James Leach, Haverhill, Grapes, gratuity, 1.00

John O'Brien, Bradford, Concord Grapes, gratuity, 1.00

Charles Atkinson, Haverhill, Seedling Grapes, gratuity, 1.50

Daniel Webster, Haverhill, Lombard Plums, gratuity, 2.00

J. Henry Hill, *Chairman.*

FLOWERS.

Andrew Lackey, Dahlias; E. N. Jaques, Asters; Geo. O. Thurston, Gladiolus; J. J. H. Gregory, Zinnias; Mrs. M. P.

Nichols, African Marigold; Frank Anderson, French Marigold; Mrs. M. P. Nichols, Pot Marigold; Geo. O. Thurston, Lilliputian Dahlais; Mrs. M. N. Hatch, Drummond Phlox; M. P. Nichols, Mourning Bride; E. N. Jaques, Balsams; Annie R. Dodge, Nasturtiums; Mrs. C. M. Webster, Pansies; E. N. Jaques, Eternal Flowers; Geo. H. Hill, Pinks; Mrs. E. J. M. Hale, Palm, premium $1. each., Chas. McLaughlin, best display, premium $4.00. Mrs. E. N. Jaques, collection cut flowers, gratuity, $3; Hattie Potter, Wild Flowers, gratuity, $1.50; Mrs. C. M. Webster, dish flowers, gratuity, 50 cents; Mrs. C. F. Morse, boquet, gratuity 50 cents; M. W. Hatch, boquet, gratuity, $1; G. H. Hill, Crazy Cushion, gratuity, $1; S. H. Harris, basket flowers, gratuity, $1; S. L. Bradley, boquet, gratuity, 50 cents; C. F. Morse, Night Blooming Cereus blossoms, gratuity, 50 cents; Albert Green, Dahlia boquets, gratuity, $1; Albert Green, Coxcomb, gratuity, 50 cents; A. R. Dodge, boquets, gratuity, $1.50; Geo. O. Thurston, boquet, gratuity, $1; Newton Jaques, Pot Plant, gratuity, 50 cents; A. R. Dodge, Pot Asters, gratuity, $1; A. R. Dodge, Wild flowers, gratuity, $1; T. C. Thurlow, Collection Foliage and Lilies, "Birds of New England"; Geo. O. Thurston, Amaranthus Sunrise, gratuity, 50 cents; Mary Austin, W. Boxford, gratuity, $1; Mrs. Alpheus Currier, Night Blooming Cereus, gratuity, $1; Mrs. C. B. Emerson, Ivy, gratuity, $2; Geo. O. Thurston, collection of plants, gratuity, $3; A. R. Dodge, Japanese Maize, gratuity, 50 cents; C. F. Morse, Century plants, gratuity, $2; Rebecca Carlton, parlor boquets, premium, $3; Shirley Ladd, Native Flowers, premium, $3; A. R. Dodge, hand boquets, premium, $2; Geo. H. Hill, floral design, premium, $2; Mrs. J. Henry Hill, cut flowers, premium, $2; E. & C. Woodman, floral design, gratuity, $1; Mrs. J. H. Webster, Violets, gratuity, 50 cents.

Charles McLaughlin, Mrs. N. E. Ladd, Mary L. Dodge.—*Committee.*

VEGETABLES.

This Society made announcement for the Fair in Danvers in 1835, that "a convenient room will be furnished for the Exhibition of Fruits and Flowers, and a committee will be appointed to examine and report upon the same. All who are interested in improving the Horticulture of our county, are invited to lend their aid to this part of the exhibition, which, it is hoped, will be charming to the eye, and delicious to the taste."

The committee of that year reported that "there were exhibited forty varieties of apples, twenty varieties of pears, quinces, etc., a variety of grapes, native and foreign. Fine specimens of the vegetable marrow squash, exhibited by Benjamin Goodrich and others, of which they say, 'This excellent squash ought to be generally known and cultivated by farmers. Great care must be taken to prevent it from mixing with other squashes and pumpkins, especially with the blue African Squash, with which it is much disposed to *amalgamate*, and lose, in great increase of size, its peculiarly valuable qualities.' Some very large crookneck squashes, pumpkins, the real citron melon, for preserving, exhibited by S. Driver, and a variety of other vegetables by Edward Lander and others. A great variety of beautiful flowers including fifty specimens of Dahlias were exhibited." The whole amount awarded for Fruits, Flowers and Vegetables was $13 in gratuities.

Garden vegetables were so little thought of at that time that the Society could not even add the name of Vegetables to the title of the "Committee on Fruits and Flowers," in whose charge they seemed to be then placed, which led subsequent committees, we should judge, to not recognize them as belonging to them.

In 1836 the committee awarded $9.50 for fruits, flowers, and vegetables, (vegetables receiving $5 of it), for sugar-beets and onions, crookneck squashes, and onions, best autumnal marrow squashes, specimens of a large lot of African

squashes, and for the Plelermy Squash. You thus see what was the introduction of what are now the most attractive and important departments of our annual exhibition, and which are now placed under five separate committees, who awarded in 1881, $273 for Fruits, $48 for Flowers, and $138 for Vegetables.

From 1837 to 1842, it is uncertain from the reports what amount was awarded for vegetables, as the exhibitors receiving awards also had fruits or flowers, and what the award was for, is not mentioned. We find, however, that in 1839 there were 17 exhibitors of vegetables from 14 towns. In 1842 the Fruit and Flower committee seem to have completely ignored vegetables, as they are not mentioned in their report and received no award, resulting however, favorably for the vegetable department, for the following year a special committee on vegetables was chosen, of which Allen W. Dodge was chairman; and the report of the transactions of the society of that year contain the first published report, on Vegetables alone, and contains the names of 20 exhibitors, from nine different towns, to whom $8.25 in gratuities were awarded. The chairman reported, that the exhibition was defective in variety—the whole tribe of tap roots being represented by a solitary turnip, and that seemed to belong to no particular owner, though from its dimensions it gave evidence of good cultivation; of beets and carrots there were no specimens. The squash tribes were fully represented.

In 1846, at Lynn, the Committee on Fruits and Flowers again had charge of them who awarded $6 to 15 exhibitors; and in 1847 and 1848 nothing was awarded and no mention made of them. In 1850, Horace Ware, chairman of "Committee on Vegetables," reported that the exhibit was unusually large and fine, $17.50 in gratuities being awarded to 35 exhibitors from 13 towns. In 1852, the "Committee on Vegetables," Henry Wheatland, chairman, who had only $10 to award in gratuities, to 31 exhibitors from 10 towns, in their report say, "They sincerely trust that this department will

receive from the trustees, another season, more encouragement than has heretofore been so sparingly bestowed. They would respectfully suggest to the trustees, the expediency of establishing certain premiums to be awarded at the annual exhibition, for the best display of vegetables; also for that of particular kinds, as of beets, squashes, or the like, and for the introduction of any new variety or varieties, which, upon trial, shall prove worthy of general cultivation."

The result of their appeal for more encouragement in this department was manifested in 1853 by $30 being offered in gratuities, causing a great increase in the number of exhibitors. It was not, however, until 1855, that the above suggestions were adopted in part, by the Trustees, when they offered three premiums, $10, $8 and $6 for the three best general collections, with $30 more for gratuities. Henry Wheatland, whose suggestions had brought it about, being again chairman of the Committee, whose report is an able and interesting one. The exhibitors increased from 68 the previous year to 98 in 1855, showing that a premium list increased the interest in this department nearly 50 per cent.

In 1868 the number of premiums for collections, were increased to four, amounting to $36, with $46.50 awarded in gratuities. Allen W. Dodge, the chairman of committee of that year stating that "it was the largest and best ever exhibited." The best collection of that year had over one hundred varieties. We find in his report, our own thoughts better expressed, and we quote them as suited to the exhibition of the present year, although the inducements are greater for exhibitors now than then. Speaking of the growing interest in this department, the report says, "This interest has been manifested not only by those who have visited the halls of exhibition, but by the cultivators, who have with commendable pride and public spirit, and at considerable cost, often far greater than the amount they have received in premiums, sent in their choicest products. Some have taken great pains to exhibit a few vegetables or even specimens of a single variety,

feeling, as it would seem, that the Society and the public have claims upon them which they must recognize. This feeling, it is to be hoped, will become more and more prevalent, not only among individuals, but towns and communities." That report also recommended, as Mr. Wheatland had thirteen years previously, that premiums be awarded for a given number of certain varieties. That same year premiums of $15 were awarded for vegetables raised by boys, of which committee, George B. Loring was chairman.

In 1869, with the able and instructive report of that year, which was such as to entitle the same to the first premium of the Society for best report of committees, the details giving name, residence and award to exhibitors was not printed in the Society's transactions of that year, thus making a break in the records of this department. The amount awarded in premiums and gratuities that year was $60.50.

In 1870, at Ipswich, $46 was awarded in 22 premiums with $25.50 in gratuities, this being the first year separate varieties are reported as awarded premiums. There were 54 exhibitors and the awards went to 14 different towns or cities. In 1871 at same place, the number of exhibitors increased to 89, showing the wisdom of the recommendations of the committees of 1852 and 1868. From that time the quality of the vegetables exhibited show marked improvement.

That those interested may have a table of reference in this department, the following tabulated statement is made of it, from its beginning, awards of books not being included in the amount of awards, and blanks left for years which the writer was unable to obtain the report to refer to, which blanks can be filled by those having them.

STATEMENT

showing the Year, Place, Exhibitors and Awards in Vegetable Department.

Year.	Place of Exhibition.	Number of Exhibitors.	Number of Towns.	Premiums Awarded.	Gratuities Awarded.
1835	Danvers, So. Parish,				Not defined
1836	do.	*5			5
1837	Topsfield,	15			2½
1838	do.	*16			Not defined
1839	Georgetown,	17	14		"
1840	do.	14			"
1841	do.	16	14		"
1842	Andover,	†			
1843	do.	*20	‡9		8¼
1844	Ipswich,				
1845	do.	*23	‡8		10
1846	Lynn,	*15			6
1847	do.	†			
1848	do.	†			
1849	Salem,				
1850	do.	*35	13		17½
1851	do,	34	14		
1852	Lawrence,	31	10		10
1853	do.	52	12		30
1854	do.	68	12		
1855	Haverhill,	98	16	24	38
1856	Newburyport,	100	17	18	76
1857	do.	97	18	24	81
1858	Danvers,	60	18	24	26
1859	do.				
1860	South Danvers,	47	‡8	18	37¼
1861	do.	*30	‡11	18	20
1862	Georgetown,	*17		8	12½

* Number to whom awards were made.
† Vegetables, no report, no awards.
‡ Number receiving awards who resided where the exhibition was held.

Year.	Place of Exhibition.	Number of Exhibitors.	Number of Towns.	Premiums Awarded.	Gratuities Awarded.
1863	Andover.	30	‡7	8	20
1864	Lawrence,	47	‡5	6	14
1865	do.	*34	‡11	18	21
1866	Haverhill,	43	‡12	18	50½
1867	do.				
1868	Newburyport,	*38	‡13	36	46½
	to boys	*4	‡3	15	
1869	do.	Not published.			
1870	Ipswich	54	‡14	46	25½
1871	do.	89		46	20
1872	Gloucester,	36		46	28
1873	do.	*30	‡12	55	21
1874	Danvers.				
1875	do.	85		123	22
1876	do.	75	13	130	24
1877	Lawrence	*40	‡14	110	21½
1878	do.	*58	‡18	105	45
1879	Lynn,	66	24	122	27
1880	do.	73	‡21	120	30
1881	Haverhill,	60	‡12	126	12
1882	do.	89	20	142	31½

At Haverhill this year, as per above statement, there were 89 exhibitors in this department of the Exhibition from 20 different towns and cities, an increase from 1881 of 29 exhibitors and 8 different towns and cities. The towns and cities represented by exhibitors were Amesbury 6, Andover 5, Boxford 5, Bradford 8, Danvers 4, Essex 1, Georgetown 2, Groveland 4, Hamilton 2, Haverhill 21, Lynn 1, Middleton 1, Newbury 4, Newburyport 1, North Andover 9, Peabody 1, Rowley 2, Salisbury 1, Topsfield 1, West Newbury 8, Unknown 2 ; their contributions of kinds being as follows, which are compared with the exhibit in Lynn in 1879.

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* Number to whom awards were made.
† Vegetables, no report, no awards.
‡ Exhibitors receiving awards who resided where the exhibition was held.

Vegetable Department.	Lynn, 1879.	Haverhill, 1831.	
Kinds of Exhibit.	Number of Exhibitors.	Number of Exhibitors.	Number of Lots Exhibited
Beets,	11	15	21
Beans,	3	3	4
Cucumber	7	5	6
Corn, (Field),		25	30
Corn, (Sweet),	11	16	17
Corn, (Pop),		4	7
Cabbages,	12	8	13
Cauliflower,	3	3	3
Carrots,	7	8	11
Cranberries,	5	3	3
Celery,		2	3
Eggs,	1	1	1
Garden Seeds,	4	3	3
Gherkins,	1	1	1
Gourds,	1	1	1
Lettuce	1		
Melons,	6	8	19
Mangolds,	7	3	4
Martynias,	1	1	1
Onions,	16	16	22
Oats,	2	1	1
Okra,		1	1
Potatoes,	18	36	91
Parsnips,	2	7	8
Pumpkins,	2	4	4
Peppers,	2	4	5
Radishes,	1		
Rhubarb,		2	2
Rye,		2	2
Sage, (Green),	1	1	1
Sweet Marjoram, (Dry),	1	1	1
Squashes,	24	18	33
Sunflowers,	1	1	1
Tomatoes,	6	10	14
Turnips,	8	12	20
Wheat,	1		
Yams,	1		
Total,	167	226	354

Three hundred forty-seven lots vegetables besides those in one

large collection, the varieties of which were not specified on the Entry-book; three lots of Seed, and one lot of Eggs.

There was also an exhibit of "Green Mountain Odorless Fertilizer," the merits of which your committee did not judge upon.

For this, one of the best exhibits in the Vegetable Department of the Society, which, taking into consideration the long continued drought of this season, was remarkable for its quantity and quality, your committee, consisting of David W. Low, Gloucester; David Warren, Swampscott; Oscar Gowen, West Newbury and Edmund Gale, Amesbury; made the following awards:

OF PREMIUMS.

$8.00, best collection of Vegetables, B. F. Huntington, Amesbury.
6.00, second best collection, Danvers Hospital Farm, Danvers.
8.00, best collection of Field and Garden seeds grown in the County, Aaron Low, Essex, 125 varieties, seed of 1882.
5.00, second best, not awarded, see report.
3.00, best 12, Early Turnip Beets, J. Henry Hill, Amesbury.
3.00, best 12, Long Smooth Dark Blood Beets, M. F. Batchelder, Peabody.
3.00, best 12, Short Top Long Orange Carrots, Albert Emerson, Haverhill.
2.00, best 12, Short Horn Orange Carrots, C. H. Poor, Bradford.
3.00, best 6, Mangold Wurtzels, T. K. Bartlett, Newburyport.
3.00, best 12, Purple Top Flat Turnips, H. A. Stiles, Middleton.
3.00, best 12, Yellow Ruta Baga Turnips, Augustus Verry, Danvers.
3.00, best 12, White, not awarded, number of specimens not conforming to rules.
3.00, best 12, Parsnips, D. G. Todd, Rowley.

3.00, best peck, Danvers Yellow Onions, R. Goodwin, Haverhill.

3.00, best peck, Danvers Yellow Flat Onions, M. F. Batchelder, Peabody.

3.00, best peck, Danvers Red Onion, C. R. Anderson, North Andover.

3.00, best peck, Early Rose Potatoes, Eben Webster, Haverhill.

3.00, best peck, Beauty of Hebron Potatoes, Alfred Green, Salisbury.

3.00, best peck, Goodwin's Seedling Potatoes, R. Goodwin, Haverhill.

3.00, best peck, Clark's No. 1 Potatoes, G. L. Barker, North Andover.

3.00, best peck, Mammoth Pearl Potatoes, Alfred Green, Salisbury.

3.00, best peck, Dunmore Potatoes, Alfred Green, Salisbury.

3.00, best 3, Savoy Cabbages, Moses B. Abbott, Andover.

2.00, second best 3, Savoy Cabbages, S. F. Newman, Newbury.

3.00, best 3, Fottler's Drumhead Cabbages, S. F. Newman, Newbury.

2.00, second best 3, Fottler's Drumhead Cabbages, George G. Pierce, W. Newbury.

3.00 and 2.00, Stone Mason Drumhead, no premiums awarded.

3.00 and 2.00, Mammoth Drumhead, no premiums awarded.

3.00, best 3, Red Cabbages, Moses B. Abbott, Andover.

2.00, second best 3, Red Cabbages, Charles Perley, West Boxford.

3.00, best 3, Cauliflowers, Moses B. Abbott, Andover.

2.00, second best 3, Cauliflowers, M. F. Batchelder, Peabody.

2.00, best 4 roots Celery, Moses B. Abbott, Andover.

5.00, best 25 ears, Field Corn, E. G. Nason, West Newbury.

3.00, second best 25 ears, Field Corn, J. A. Hoyt, Georgetown.

2.00, third best 25 ears, Field Corn, Henry J. Stevens, North Andover.

3.00, best 12 ears in milk, Early Sweet Corn (Marblehead Early), Aaron Low, Essex.

3.00, best 12 ears in milk, Late Sweet Corn, (Stowell's Evergreen), S. H. Bailey, N. Andover.

3.00, best 25 ears, Pop Corn, Danvers Hospital Farm, Danvers.

3.00, best 3, Marrow Squashes, J. G. Chadwick, North Andover.

3.00, best 3, Turban Squashes, Geo. T. Smith, Haverhill.

3.00, best 3, Hubbard Squashes, C. R. Anderson, North Andover.

3.00, best 3, Marblehead Squashes, J. G. Chadwick, N. Andover.

3.00, best 3, Nutmeg Melons, Danvers Hospital Farm, Danvers.

3.00, best 3, Musk Melons, J. G. Chadwick, N. Andover.

2.00, best 3, Casaba Melons, no premium awarded.

2.00, best 2, Water Melons, E. Field, Bradford.

3.00, best 12, Tomatoes, (Acme), Aaron Low, Essex.

3.00, best 12, Tomatoes, (Essex Hybrid), Aaron Low, Essex.

3.00, greatest variety, no premium awarded.

3.00, best peck, Cultivated Cranberries, H. A. Stiles, Middleton.

2.00, second best peck, cultivated Cranberries, Mary H. Cole, West Boxford.

1.00, third best peck, not awarded.

OF GRATUITIES.

"Birds of New England," book of $5 value, for collection of Vegetables, Albert Emerson, Haverhill.

"Birds of New England," collection of Seed Beans and Potatoes, E. F. Webster, Haverhill.

$2.00, White Ruta Baga Turnips, Benjamin H. Farnham, North Andover.

1.00, Yellow Ruta Baga Turnips, S. H. Bailey, West Andover.
2.00, Savoy Cabbages, M. F. Batchelder, Peabody.
1.00, Mangold Wurtzels, Alex. Roberts, (boy), Haverhill.
1.00, Cucumbers, table use and pickling, T. G. Phillips, Bradford.
1.00, Green Herbs, M. F. Batchelder, Peabody.
2.00, Potatoes and Squashes, J. P. Newcomb, North Andover.
1.00, Celery (part bleached in drain tile), Wm. Hilton, Bradford.
2.00, Essex Hybrid Turban Squash, A. T. Newhall, Lynn.
2.00, Essex Hybrid and American Turban Squashes, Danvers Hospital Farm,
1.00, Beets, Sugar Pumpkins and Potatoes, Amos Hazeltine, Haverhill.
1.00, Vegetables, collection, R. Webster, Haverhill.
2.00, traces of Pop Corn, Geo. A. Coombs, (boy), Haverhill.
1.50, exhibit of Sweet Corn, D. G. Todd, Rowley.
1.00, Red Onions, (two varieties), A. T. Newhall, Lynn.
1.00, Field Corn, John Barker, North Andover.
1.50, Field Corn (raised on reclaimed pasture), Charles J. Peabody, Topsfield.
2.00, Field Corn, S. Longfellow, Groveland.
1.00, Rice Pop Corn, B. F. Eaton, Haverhill.
1.00, Cabbages, Chester Killam, Boxford.
1.00, Winter Rye, (yield 28 bushels to acre), F. G. Phillips.
1.50, display of Sorghum, and Oats on stalks, G. L. Barker, North Andover.
1.00, Green Peppers, L. B. Mitchell, Haverhill.

The collection of B. F. Huntington, which was awarded the first premium, consisted of 50 varieties of Vegetables and 10 varieties of Strawberry plants; comprising 4 varieties of Beets, 1 of Carrots, 6 of Melons, 3 of Onions, 17 of Potatoes, 1 of Winter Rye, 4 of Squash, 3 of Tomatoes, 4 of Turnips, 1 of

Field Corn, 1 of Pop Corn, 1 of Marblehead Sweet Corn, 2 of Peppers, 1 of Parsnips, 1 of Rhubarb, and 10 varieties of Strawberry Plants growing in pots.

The collection awarded the second premium, that of the Danvers Hospital Farm, consisted of 23 varieties, comprising 3 of Squashes, 2 of Beets, 2 of Cabbages and one each of Beans, Carrots, Okra, Peppers, Pop-Corn, West India Gherkins, Cucumbers, Parsley, Gourds, Potatoes, Rhubarb, Tomatoes, Turnips, Martynias, Melons and Parsnips; also thirteen additional lots were entered for special premium competition.

Your committee decided that the twenty-two varieties of Beans, so excellent in quality, raised by E. F. Webster of Haverhill, could not properly be awarded the second premium for Field and Garden Seeds, they being that of one kind of vegetable. Mr. Webster also exhibited five varieties of Potatoes of merit. For information how vegetables are cultivated in Essex County, your committee would call attention to report of 1879 on that subject.

We have the same fault to find as other committees have before us, that exhibitors do not conform with the rules of the society as regards number of specimens, or quantity required, size, weight, etc., if they intended they should compete for premiums. If not, exhibitors should enter them "not for premium." Some of the vegetables of the best quality could not be awarded premiums because their exhibitors did not conform to the rules.

It is useless for the exhibitor of a *bushel* of any product to expect the premium offered for *a peck;* or 13 to 15 of a product when 12, *no more* and *no less*, are required; or expect it for squashes, potatoes and other vegetables of mammoth size, when the premium size as defined by the Society is smaller.

We would suggest that the same method be adopted in regard to vegetables as has proved so successful with fruit, that of having cards printed and placed upon the tables, designating where each variety is to be placed, and the hall committee should assist the exhibitor in arranging his exhibit in

its proper place. It is an imposition upon any committee of awards to have so much of their time wasted in running about from one place to another to find an article entered for premium, and after the search finding it, perhaps, buried between, or under the shadow, of mammoth squashes and cabbages. It is for the interest of exhibitors to have the premium cards quickly attached to the best lots, that they and the public may know it, and how can it be done so quickly and justly as where all of a kind are side by side, and how can the exhibit be more attractive than when the same kinds are arranged together with taste, and the "Collections" together. When this is the rule and carried out, your Committees on Awards can serve with satisfaction and do justice to all, doing their work so promptly and speedily that they may enjoy the other attractions of the Fair with others. In this connection, we would recommend that cards be printed and hung in the Exhibition Hall, stating number or quantity required of each kind of exhibit to entitle it to compete for premiums, with the amount of premiums offered; for instance, in the Vegetable Department, like this:—

PREMIUMS.

$8.00 for best collection of Vegetables.

3.00 for best 12 Early Turnip Beets.

3.00 for best 3 Hubbard Squashes, and so on, through the list, ending with $30 in gratuities, or whatever the sum, will be awarded by this committee.

Have these cards hung so that they will be seen by the *exhibitor*, the *receiver of entries*, the *hall committee*, the *committee on awards*, and last, but by no means least, the *public*.

Then the excuse, that "they did not know it," will be useless. We think the cost would be amply repaid in the benefits derived; we know it would, in the Vegetable department, and believe it would be in others; for each committee, and the

general public would thus obtain information not obtained so quickly elsewhere. We would also suggest that the premium cards be printed, with what it is for, and amount of premium with blanks for name and residence of the person, like this :—

BEST THREE SAVOY CABBAGES.

FIRST PREMIUM, $3.

To .....

Of .....

with gratuity cards similar, with heading left blank for insertion of article, "gratuity" instead of premium, with space for amount. These cards to be packed in a pasteboard box in the order in which the premiums are offered, with the requisite number of blank cards, (the outside of box to designate the committee, with request to return box with the cards not used to Superintendent of Hall), and placed in charge of the Superintendent of Hall for each committee's use; the boxes, with the cards remaining, to be handed to him by the chairman of the committee, at the close of their labors. We think the Society would save expense by so doing, as many cards are now wasted by being thrown into corners, or carried away in the pockets of committees unintentionally as we did.

Congratulating the Society on having such an exhibit, with this unfavorable season of two months drought, which would have been considered an excellent one under the most favorable circumstances, this report is respectfully submitted.

DAVID W. LOW, *Chairman*,

COUNTERPANES, CARPETINGS AND RUGS.

The Committee report:—

To Mrs. Martha Jennings, Haverhill, counterpane, 1st premium, $4; Mrs. E. McDuffee, Bradford, do., 2d premium, 2; Miss L. A. Kimball, Georgetown, quilts, gratuity, 1; Miss A. M. Adams, Haverhill, do., do., 1; Mrs. W. M. Nichols, Haverhill, do. do., 1; Mary W. Currier, Haverhill, do. do., 50 cts.; Mrs. J. W. Hooker, Haverhill, do., do., 50 cts.; S. Emily Fitts, Haverhill, do., do., $1; Annie C. Gilman, Haverhill, do., do., 1; Mrs. E. K. Jaques, Haverhill, do., do., 50 cts. Helen M. Perley, Haverhill, do., do., 50 cts.; Mrs. E. B. Adams, Haverhill, do., do., $1; Mrs. Harriet A. Sumner, Peabody, do., do., $1; Myra Emerson, Middleton, do., do., 1; Mrs. G. Whittier, Haverhill, do., do., 1; Mrs. E. Garland, Haverhill, do., do., 1.50; Mrs. Martha Brown, Haverhill, do., do., 50 cts.; Mrs. L. C. Hanscom, Haverhill, do., do., 50 cts.; J. M. Palmer, Haverhill, do., do., 50 cts.; Susan A. Palmer, Haverhill, do., do., 50 cts.; Harriet D. Colby, Haverhill, (Old Ladies' Home), do., do., $1; Miss Caroline Michard, Haverhill, rug, 1st premium, 3; Walter Ordway, Bradford, do., 2d premium, 2; Mrs. Nathan Howe, Georgetown, do., gratuity, 1; L. Michard, Haverhill, do., do., 1; Mrs. J. Holt, Haverhill, do., do., 50 cts.; Mrs. J. N. Jameson, Groveland, do., do., $1; Mrs. A. Hasty, Haverhill, do., do., 50 cts.; Mrs. Eliza Hussey, Georgetown, do., do., 50 cts.; J. S. Gerrish, Newburyport, do., do., 50 cts.; Mrs. D. M. Goodwin, Amesbury, do., do., 50 cts.; Mrs. L. J. Harris, Haverhill, do., do., 50 cts.; Mrs. E. G. Lowe, Haverhill, do., do., 50 cts.; Francis C. Gilman, Haverhill, do., do., $1; Mrs. D. Veasey, Haverhill, do., do., 1; Mrs. H. Crocker, Haverhill, do., do., 50 cents; E. W. Killam, Boxford, do., do., 50 cts.

John L. Shorey, Mrs. Horace C. Ware, M. E. Fuller, Mrs. Aaron Sawyer, Mrs. P. S. Holmes.—*Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

The Committee on awards for Articles Manufactured from Leather, would make the following report :—

To D. S. Bartlett, for case of Shoes, gratuity, $3.

To H. P. Fairbanks, case of Shoes, gratuity, $3.

To Daniel Peters, for one set double harness, $7.00.

To Daniel Peters, for one single harness, $3.

To W. W. Sprague, two light harnesses, $10.

To W. W. Sprague, one express harness, $3.

Henry Hobbs, Daniel Goodrich.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee on Manufactures and General Merchandise, regret that the Chairman and the other members of the Committee, were not present to aid by their judgment in awarding the premiums, but they have discharged their duty to the best of their ability, considering the great variety and miscellaneous character of the articles entered for exhibition, ranging from Irish Point Lace Fichus and Ties and Kid Gloves, to a case of Files and an Adirondack Boat. There were not so many contributions in this department as there should have been, but notwithstanding, there was a very fine display of articles, especially of Millinery and Dry Goods, Cloaks and Cloaking, Shawls, Carpeting, etc., contributed by Messrs. C. N. Rhodes, Mitchell & Co., Brooks Brothers, and F. W. Jacobs, all of Haverhill. The Committee was much gratified with the interest taken in the exhibition by these young business men of Haverhill, as shown in the great labor expended and the good taste displayed in the arrangement of their several contributions. Their elegant and tastefully arranged tables attracted the attention of crowds of visitors, and received and deserved general and hearty commendations.

The Committee award as follows ;—

Mitchell & Co., Haverhill, cloaks, &c., gratuity, $6 ; Brooks Bros., Haverhill, goods and blankets, do., 6 ; C. N. Rhodes, Haverhill; bonnets, premium, 4 ; do., do., fancy goods, gratuity, 3 ; W. Jacobs, Haverhill, ladies' cloaks, do., 3 ; J. R. Robinson, Haverhill, boat, do., 3 ; Wm. H. Day, Amesbury, case of files, diploma.

Warren Ordway, George C. Foster.—*Committee.*

FANCY WORK AND WORKS OF ART.

In compliance with your request, and the practice of the society, we have the honor to submit to you the following report in relation to the Fancy Articles and Fine Arts exhibited at your sixty-second annual exhibition, and we are happy to say, that as a whole, the articles contributed to this department were of a higher order of workmanship than those of last year.

In the Fancy Articles, there were a number of entries deserving of gratuities which received none, for this reason : if we gave to one we must to more, as there were a number equally deserving, although of different material and different style of needlework.

Among those deserving of " Honorable Mention," your committee find two landscapes in silk by Adah Peaslee of Haverhill ; an ottoman cover made by M. J. Poor of Haverhill ; chair stripe by Mrs. S. H. Harris, Jr., Methuen, which was very artistic ; also a lambrequin by Florence Appleton of Haverhill. A tidy representing a young chicken just from the shell, and a rooster, who is asking his youthful descendant, " does your mother know you are out ?" the expression that of the keenest anxiety ; it was made by Estella C. Dexter of Haverhill. A darned tidy of fine finish by Miss Lizzie West of Haverhill. An affghan knitted by an old lady ninety-four years of age, Mrs. Matilda Barker of West Boxford, would have received a gratuity had it been entered according to rules ;

as it is, we can only express our regrets, and say the work was very nice, and a great credit to the knitter.

In the "Fine Art" department your committee find many very fine works; among those receiving no gratuity and deserving, was a silk banner, by Mrs. N. H. Butler of Augusta, Ga., done from a stock of upland cotton, beautifully executed and true to nature; a tile by Susie Allen of Haverhill; work by Annie Davis of Haverhill; fruit and corn by Adah Peaslee of Haverhill; tile and dozen butter plates by Lizzie F. Harriman of Haverhill; also a copy in crayon by Mary P. Whittier of Haverhill, which showed a great amount of patience. We find less copies and more original work than last year in this department.

Your Committee would be pleased to suggest, that in future you appoint two committees for these departments; the large number of entries make it impossible for one committee to do justice to all, and if we may be allowed the privilege, we think this gratuity fund should be increased by, say ten dollars, allowing twenty-five dollars for "Fine Arts," and thirty-five for "Fancy Articles," as this is the most extensive part; that is, it allows, in the same number of entries, for a larger variety of work. Your committee have taken into serious consideration these matters, and now most respectfully submit them. The awards are as follows:—

FANCY ARTICLES.

Mrs. A. Currier, Haverhill, sofa pillow, gratuity, 75 cents; Fannie F. Goodridge, do., do., do., 50 cents; Miss Helen Chase, do., table cover, do., $1; Mrs. Chas. Wood, Bradford, do., do., 75 cents; Mrs. Lizzie Littlefield, Haverhill, do., do., 50 cents; Lelia Currier, do., table scarf, do., 75 cents; Mrs. S. H. Harris, Methuen, do., do., 50 cents; Mrs. H. C. Tanner, Haverhill, tidy, do., 50 cents; Mrs. J. L. Emerson, do., do., do., 50 cents; Mrs. F. A. Butler, do., flannel embroidery, do., 75 cents; Mrs. J. C. Whitney, W. Boxford, do., do., 50 cents;

Mrs. J. P. Dearborn, Haverhill, darned lace pillow shams, do., 50 cts.; Mrs. W. J. Chase, Methuen, do., jacket, do., 50 cents; Mrs. S. C. Smith, W. Newbury, hand wrought lace, do., 75 cents; Mrs. E. K. Batchelder, Haverhill, apron done in etching, do., $1; Mrs. E. M. Livingstone, do., knit lace on pillow cases, age 70, do., 75; Mrs. Eben Rogers, Rowley, knit lace, age 80, do., 50; Lizzie Harriman, Haverhill, silk quilt hand painted, do., 75; Miss Addie Putnam, Danvers, stand cover, do., 75 cts.; Mrs. R. M. Boody, Haverhill, affghan, do., $1; Mrs. L. W. Noyes, Newbury, do., do., 75 cents; Mrs. Gardner Webster, Haverhill, do., do., 50 cents; Mrs. G. A. Fisher, do., pillow shams, do., 75 cents; Lizzie Wells, do., table cover, do., 50 cents; Mrs. J. M. Littlefield, do., tray cloth, do., 50 cents; Mrs. J. M. Littlefield, do., mantle fringe, do., 50 cents; Maud Sellers, do., seed bag, do., 50 cents; M. J. Howe, Georgetown, husk basket, do., 75 cts.; Lucy J. Kimball, Haverhill, button holes, do., 75; Mrs. E. E. Peaslee, do., flowers in silk, do., 75 cents; Charles Mahoney, do., inlaid box, do., $1; Warren B. Chadwick, N. Andover, bracket, do., 75 cents; Mrs. Nancy West, Haverhill, tidy, do., 50 cents; Mrs. Geo. S. Hicks, Bradford, crotchet and braid, do., 50 cents; Mrs. C. White, Haverhill, feather wreath, do., 50 cents; Mrs. Chas. Atkinson, do., table scarf, do., 50 cents; M. C. Welch, Bradford, worsted wreath, do., 75 cents; Flora L. S. Bartlett, Haverhill, do., do., 50 cents; Mrs. D. W. Goodwin, Amesbury, tidy, do. 50 cents; J. C. Bryant, Haverhill, chair, do., $1.

FINE ARTS.

Bessie Kelly, Haverhill, water color hollyhocks, gratuity, $3.00; Fred G. Young, Groveland, oil flowers, do., 2.00; F. G. Young, do., do., do., 2.00; Mary C. Stratton, Haverhill, do., 1.50; Mary C. Stratton, do., do., 1.50; Mary How, Merrimack, pencil drawing from nature, do., 1.50; Mary P. Whittier, Haverhill, hollyhocks, do., 1.00; Mary P. Whittier, do., sunflowers, do., 1.00; Mrs. Geo. Dresser, do., piano scarf, do.

1.00; Mrs. Geo. Dresser, do., sepia sketch, do., 1.00; Lizzie C. Littlefield, do., dog's head, do., 75 cents; Lizzie C. Littlefield, do., chickens, do., 75 cents; Nattie B. Hale, Bradford, oil painting, do., 50 cents; Nattie B. Hale, do., water color, do., 50 cents; Lizzie K. Harriman, Haverhill, mantel mat, do., 75 cents; Mrs. Geo. Ricker, Merrimac, do., 50 cents; Harriet J. McDuffee, Haverhill, dog's head, do., 75 cents; Lizzie Sorrenson, Merrimac, flowers, do., 75 cents; T. S. McAllister, Haverhill, do., 50 cents; Mrs. J. P. Heiney, do., tidy painting, do., 50 cents; Mrs. George Webster, do., painting, black satin, do. 75 cents.

Amount of gratuity fund	$50.00
" used for gratuities	48.75
	$1.25

Mrs. E. A. Bosworth for Mrs. Wm. Cogswell, Mrs. W. L. Bowdoin, Mrs. N. S. Boswell, Helen Chase, Miss Foxx.—*Committee.*

WORK BY CHILDREN UNDER TWELVE YEARS.

The Committee report as follows:—

Daisy B. Littlefield, Haverhill, sham towel, 1st premium, $3; Jessie Dodge, Rowley, braided rug, 2d premium, 2; Nellie M. Pearson, Bradford, patchwork, gratuity, 50 cents; Lucy J. Kimball, Bradford, tray cloth, do., 50 cents; W. B. Chadwick, North Andover, holly cross, do., 50 cents; Florence T. Blunt, Haverhill, cushion, do., 50 cents; Katie M. Blunt, Haverhill, napkins, do., 50 cents; Alice B. Flanders, Haverhill, panel picture, do., 50 cents; A. Shirley Ladd, Groveland, towel rack, do., 50 cents; Blanche Emerson, Haverhill, patchwork, do., 50 cents; Bessie Sprague, Haverhill, cushion, do., 50 cents; Gertie M. Hayes, Haverhill, panel picture, do., 75 cents; G. Howard Smith, Bradford, picture, do., $1.

MRS. T. C. THURLOW, *for Committee.*

ROOT CROPS.

There were submitted for inspection by your Committee six entries under this head, viz.:—Onions by J. J. H. Gregory of Marblehead, Potatoes by Messrs. Knight of Newbury and Blodgett of E. Saugus, also Beets and Squashes by Mr. Blodgett and Mangold Wurtzels by Aaron Knowlton of Essex.

Of these entries, but one was made to conform to the new rule, adopted by the society at the last annual meeting, viz.:— "Grain and Root Crop entries to be made on or before Sept. 10." Undoubtedly, in some instances, this was owing to the competitors being unacquainted with this new rule, and shows the importance of a careful perusal of the premium list, &c.

The committee are of the opinion that while this rule is at fault concerning the date of entry of Grain crops, it is more so with Root crops, and would recommend that it be amended, to read Oct. 10th for Root Crops, as it is impossible with some crops for the competitor to decide whether he himself would deem his crop meritorious at this earlier date; this is particularly applicable to all crops in this class, excepting Potatoes, Onions and Squashes.

Recommending that the error of *entry* be this time overlooked, your committee, after a thorough examination of both crop and the several statements submitted, have made the following awards:—

To J. J. H. Gregory, of Marblehead, for crop of Yellow Danvers Onions, the premium of $10.

To J. W. Blodgett, of E. Saugus, for crop of potatoes, premium of $10.

To J. W. Blodgett, for crop of Hubbard Squashes, premium $10.

To Aaron Knowlton, of Essex, for crop of Mangold Wurtzels, premium of 10.00

Appended to this report are the statements of the competitors.

In making the above awards we feel that, taking into con-

sideration the amount and quality of the several crops, each well merited the offered premium, although we regretted that there was not more competition. While the attending duties of the committee are somewhat laborious, the different entries having been made at intervals from Sept. 1st to Oct. 25th, yet more competition would have been more interesting, and would have formed a basis for a more extended report than is herewith submitted.

The first visit made was to view the potatoes entered by Mr. Knight, whose reputation as a successful grower of potatoes is widespread, having discovered that his crop, which promised well at one time, had not matured according to his expectations, decided not to render a statement. I was informed by a neighbor of Mr. Knights', that the vines had so covered the ground at one time that it was impossible to distinguish at a short distance which way the rows ran, but later were so affected by the *calamity* which so generally prevailed this season throughout New England, affecting vegetation so seriously as to stamp indelibly on the mind of both producer and consumer the remembrance of the drought of 1882.

On the day following the exhibition at Haverhill, we visited the farm of Mr. Gregory in Middleton, to view his onions, and after witnessing the fine exhibit presented at the Fair in the various classes of vegetables, it had a natural tendency to place our standard of a premium crop above a reasonable level for this season, " which had been marked for its disastrous effects particularly on this crop."

But, our expectations were more than realized. On the summit of *Bear Hill*, overlooking the surrounding country, we were met by Mr. Gregory and his genial foreman, Mr. Sanford, who conducted us to one of his numerous fields of onions, which this season comprised in all about 19 acres, devoted to the growing of this crop alone, where we saw, not the largest onions that were to be found on the farm, but as perfect, symmetrical a crop, as was ever brought to our notice. At this time they had been pulled, and we only regretted that we had

not the pleasure of viewing them while standing. As the choicest of his crops are utilized for the production of seed, he had caused them to be sorted, discarding all imperfect as well as small ones, and taking into consideration the uniformity of size, and perfect type, being so symmetrical that each seemed the perfect model of the other, it spoke well for the care manifested to *maintain* and *improve* the purity of the *stock*, not a scullion or unripe onion being observed on the piece.

Mr. Gregory's statement of this crop, rendered the committee, gives the yield on one-half acre, 340 3-5 bushels.

To the many questions propounded by your committee, regarding his success in the cultivation of the various crops, our host at this time seemed most willing to gratify our request.

After attending to the duty in hand we were shown many improvements both finished and in contemplation, in the explanation of which Mr. Gregory seemed most enthusiastic, remarking of some fields that he prized them more highly than others, for the associations connected therewith, having reclaimed them from wild bushy pastures with many surface boulders ; pointing out to us in the distance, a fine field where a few years ago was an alder swamp, and still another field of onions on what was recently a cranberry bog.

Completing a hurried inspection of the one hundred and fifty acres comprised in the two farms, noting the general activity and thrift on every side, which bespoke the practical farmer. We were most hospitably entertained, which is a feature predominating among New England farmers.

Taking our leave we wended our way through the farming sections of Danvers and Peabody to inspect the crops entered by J. W. Blodgett of E. Saugus, comprising potatoes, beets and squashes.

The field of squashes contained about one acre of the Hubbard variety, were considered quite pure stock, well ripened and of good average size.

The potatoes were of good size and very smooth, had received

thorough cultivation, and were on land particularly adapted for the cultivation of this crop, being adjacent to, and only slightly above the *marsh* level; had not suffered from drought.

The beets shown were looking well, a very good variety, and although in a growing state bid fair to be a good crop.

A statement of this crop was not received from Mr. Blodgett in season to award it a premium, but from appearances might have been well worthy of it.

Mr. Blodgett's farm from its close proximity to the Lynn and Saugus marshes affords him a convenient opportunity for the collection of large quantities of marsh sweepings and sea waste, which enters largely into increasing his stock of manure. In my own experience I have found manure of this nature well adapted for growing most crops, and more particularly roots and running vines which seem to crave a fertilizer of a salt nature.

The call received from Mr. Knowlton to examine his crop of wurtzels was unexpected, owing to the lateness in the season when made, Oct 25th. The full committee being unable to attend on short notice, only the chairman of the committee visited him. Besides finding an exceptionally fine field of roots, with a heavy growth of tops reaching above the waist, which alone would well repay the cost of *harvesting* the roots. I also found a farmer who well understood the importance, as well as economy of heavy manuring. Mr. Knowlton is no novice in the business, having two years ago received the Society's premium for same crop.

It is well known that those farmers who best understand the requisite constituents necessary for furnishing the most plant food, for the least cost, and a knowledge of how best to combine, and in what proportions for different crops and particularly how and when best to apply them, seldom fail to harvest good crops. Yet a very essential part, which will bear emphasis is thorough tillage.

There is much truth in the remark that *manure* is the best farmer, yet there are many necessary accompaniments, for

many farmers have felt and expressed the opinion during this season's drought that water figured as a more essential factor, necessary to insure success, than liberal manuring. This leads us to realize the importance of studying the best methods of application, and also the cultivation to best retain the most moisture in our dry soils.

I would define *cultivation* as meaning collectively,—ploughing, pulverizing, manner of seeding, and care of crop.

But first, for a moment give our attention to best time and method of applying manures, especially those most insoluble. Shall we apply all manure on hand, and obtainable in fall or winter, for any and all crops, directly to the land, or allow the same to decompose in heaps on the field to be applied in Spring.

While the pressing cares and labor of harvest time have frequently interfered with fall ploughing, all lands intended for spring planting, yet I would invariably put in practice *deep* fall ploughing on *all land not too sloping*, and harrow in all the manure on hand and to be procured, if needed, believing that by this method the land and manure are more benefitted for the coming crop than if applied in spring.

I have also tried the method which is becoming quite popular, of leaving manure wholly exposed on the surface of fall ploughed land, with most satisfactory results, but prefer harrowing in if applied before the ground closes.

The theory seems reasonable, and practical test proves that that the land having become impregnated with the plant food in the manure, is in much better condition for nourishing and forcing the tender plant, and having become decomposed retains the moisture better than if applied in Spring.

In visiting different sections of the State and county, I have observed one very marked feature of this season's crops, viz.: That there are but few ordinary crops, but mostly varying from one extreme to the other, being either very poor or very good, while the best crops have been produced on naturally moist and low land. Some good crops have been grown on land

highly manured which was planted early and received thorough cultivation. Such was the case with the potato, and from my own experience with this crop I would favor early planting, whether the crop was intended for fall or winter use, the average chances for a good crop being more favorable.

Another advantage in favor of early planting is the ease of controlling the potato bug, which was at first thought to be so disastrous to the production of this most important crop.

I incline to think that the great annoyance of this pest, the potato bug, has taught many of us a valuable lesson, viz., the importance of heavy fertilization and good cultivation, in order to force the plant as far as possible beyond the ravages of the bugs. I am of the opinion that large crops have been produced, and that there is no crop to-day in which so many farmers manifest an interest and zeal in improving as in the potato. A study of the fine exhibit at our recent fair is evidence of the growing popularity of the potato as a profitable field crop.

CULTIVATION OR STIRRING OF THE SOIL TO PROMOTE GROWTH.

However thoroughly we plough and with improved implements pulverize the soil at seeding time, *and this is most important*, a *frequent* stirring of the soil among all vegetable plants, whether the soil is moist or dry, is necessary to reap the full benefits of the elements in the atmosphere. When the ground is wet cultivate thoroughly to retain the moisture, and when it is dry stir the soil often, that the pores may be open to absorb the dew and moisture in the atmosphere.

It would appear very unpopular to advocate weeds as being a benefit under any circumstances whatever, yet I have known of instances where crops have received one hoeing more than *seemed* necessary except to *destroy* the weeds, while adjoining portions where the weeds failed to appear had been denied this last hoeing, the surface would become baked and suffer in a dry season much more than that which received the extra labor.

A friend made the remark to me a short time since, that he had learned this season more than ever before the importance of hoeing at the right time, as he expressed it, or when the plants were large enough to work among, and pointed out to me where he quit hoeing a crop to attend to other work and did not get an opportunity to finish the piece until one week later; the difference in the quality and quantity of the crop could be detected at a glance, the increase being much in favor of the early hoeing.

Let us bear in mind the importance of fertilizing highly, thorough ploughing, careful seeding, and frequent hoeing, and having done our duty by the crop, trust to nature to do the rest. Respectfully submitted by

A. T. NEWHALL, *for the Committee.*

STATEMENT OF J. J. H. GREGORY.

To the Committee on Root Crops:—

GENTLEMEN:—The half acre of Early Round Danvers Onions entered by me have been harvested, and all measured, and a number of bushels weighed to determine the average weight of the lot. The yield to the half acre was 340 3-5 bushels of 52 lbs. each. These onions were grown on one of my Middleton farms, and was the third continuous crop on the same land. The manure used for the first year was about half in value each of stable manure and guano; the second or last year I have the impression that the part of the bed had the same proportion of stable manure with unleached wood ashes harrowed in and guano slid in after the onions were up, and again just before they bottomed. The value of the manure each year was $65.00. I feel a little uncertain about this portion of the bed, for the entire bed of three and a third acres was variously treated in its different parts by way of experiment. This year the piece on which the onions offered for premium were raised, with the exception of a small portion of it, was manured with 22 1-2 bushels of unleached Canada ashes, which were harrowed in after the ploughing, and $30.00 worth

of Ames ground bone and flesh, which was all raked in just before the seed was sown.

The small portion referred to was part of an acre to which, by a mistake of the man in charge, a ton of Peruvian guano, the guaranteed, was applied. The results on the guano-manured portion were no better than on that which received the ashes and Ames manure. This can be satisfactorily explained by the fact that the three great elements of plant food must be supplied in the proportion needed by the plant; consequently any excess of these will not increase the crop. To apply this truth to the case in hand, if in addition to the large quantity of ammonia contained in the guano, I had made a proportionate increase in the phosphoric acid and potash fed to the plant, without doubt the effect on the portion of the crop so treated would have been very evident in the increase.

Allow me here to remark that on one portion of the large bed on which Mangolds were raised last season and onions for the first time this, the crop was just about as good as on the average of the bed, which I account for by the same principle as the above, viz.: knowing that Mangolds are great potash feeders, I gave this part an extra feed of the ashes. If our farmers will give the land on which either beets or cabbages were raised the year previously an extra quantity of unleached wood ashes or potash in any other form, over and above the usual manure, when planting to onions, instead of the failure usual when following these crops with onions, they will be likely to have success.

The land had a shallow ploughing, about four inches deep, when it was first harrowed and then raked with a new variety of rake run by horse power. This rake consisted of four cylinders of wood, on which were fastened circular discs of steel, much like those in the Randall harrow; these discs cut between each other making the soil or ground free from stones the size of one's fist, as fine as when hand raked. As the space raked was about six feet in width, there was a great saving of time.

The entire cost and profits of the crop on the half acre was as follows :—

Interest on land,	$3.00
Ploughing and harrowing,	2.00
Fetilizers,	45.00
Applying same,	1.00
Raking,	1.25
Planting,	·50
Seed,	12.00
Three weedings,	12.00
Three slidings,	1.75
Pulling and turning,	4.00
Harvesting,	12.00
Topping,	10.20
Marketing,	23.80
	$128.50
Value of crop large onions, 320 bushels, at 80 cts.,	$256.00
20 bushels "picklers" at 50 cts.,	10.00
	$266.00
Deduct cost,	128.50
Profits,	$137.50

The price of onions is unusually low this season or the profits would have made a better showing.

STATEMENT OF J. W. BLODGETT.

To the Committee on Root Crops :—

GENTLEMEN :—The following is the account of my potato crop entered for premium.

The land consists of a black loam with sandy subsoil. It had been in grass several years previous to 1881 and had received no manure. In June of that year the grass was cut; ploughed the land six to eight inches deep in July, manured

with stable manure, eight cords to the acre, and raised a crop of cabbages. Ploughed the land again in the fall. About the 20th of April, 1882, it was again ploughed 6 to 8 inches deep, harrowed, furrowed 39 inches apart, 6 inches deep, manured with stable manure spread in drills about 6 to 7 cords to the acre. Planted with Early Rose and Clark's No. 1 potatoes, about ten bushels to the acre, cut in pieces, two to three eyes each, dropped in furrows twelve inches apart, covered with No. 10 Oliver Chilled Plow. When the potatoes were sprouted, harrowed the piece down level with bush harrow. They were cultivated twice, hoed by hand-hoe once and horse-hoe once. Bugs were destroyed by applying Paris green and plaster dust mixed, one pound of Paris green to one hundred and fifty pounds of plaster dust. Gathered last of October two hundred bushels No. 1 Potatoes, twenty bushels No. 2.

STATEMENT.	Dr.
Ploughing and Harrowing,	$3.75
Use of land,	7.50
Cost of Manure,	27.00
Getting out Manure and Planting,	8.00
7½ bushels of Potatoes,	9.00
Bush Harrowing,	1.50
Cultivating and Hoeing,	8.00
Labor, Plaster and Green,	3.00
Harvesting and Storing,	13.00
	$80.75
	Cr.
By 200 bushels No. 1 Potatoes at 82 cts.,	164.00
By 20 bushels No. 2 Potatoes at 36 cts.,	7.20
	$171.20

STATEMENT OF J. W. BLODGETT.

The following is the account of my Squash crop entered for premium:—

The land consists of a black loam. The season of 1880 this land was manured with stable manure at the rate of about ten cords to the acre; ploughed six to eight inches deep, and planted to Dewing's turnip beet. The year 1881 it received about the same treatment, and the same crop as the year previous. First of May, 1882, it was ploughed six to eight inches deep, harrowed, furrowed eight feet apart, manured with stable manure, about four or five cords to the acre in hills 8 feet apart. Planted to Hubbard squash June 5th, six seeds in a hill; when the plants were of a suitable size thinned them to four plants in a hill. They were cultivated four times and hoed twice. The bugs were destroyed by applying plaster dust in the morning when there was dew upon the vines. Harvested Sept. 30, 5 9-10 tons of No. 1 Squashes, and eleven hundred pounds No. 2 Squashes.

STATEMENT.	Dr.
To use of land,	11.00
To cost of manure,	30.00
To ploughing and harrowing,	5.50
To planting, manuring, &c.,	6.00
To Seed,	2.50
To cultivating and hoeing,	9.00
To plaster and labor,	5.50
To Harvesting and storing,	9.00
	$78.50
	Cr.
By 5 9-10 tons No. 1 Squashes at $40 a ton,	$236.00
By 1100 pounds No. 2 " at $20 a ton,	11.00
	$247.00

East Saugus, Oct. 30, 1882.

I measured for J. W. Blodgett a piece of land containing 130½ rods, on which grew 220 bushels potatoes.

W. Saunders.

East Saugus, Oct. 30, 1882.

This certifies that J. W. Blodgett raised 5 9-10 tons Hubbard Squashes and 1100 lbs. second quality on a piece of land containing 1 acre and 17 rods. W. Saunders.

STATEMENT OF AARON KNOWLTON.

Statement concerning a crop of Mangold Wurtzels raised by Mr. Aaron Knowlton in the town of Essex, Mass., 1882. Crop of 1880 was grass. 1881 crop was Fodder Corn, manure was barn and stable mixed, about thirty loads to an acre. Manure 1882 was thirty-five loads of barn manure alone, spread on in November, and ploughed in nine inches deep. Ploughed again in May twice, same depth, then raked and smoothed and four pounds of seed sown the 12th day of May. Carter's Mammoth seed was used. Cultivated three times, first and second times with a patent wheel cultivator, third time with a hoe, cutting very deep. The soil was a dark, clay loam. The plants were thinned to one foot apart. Finished harvesting the third day of November, 1882. The tops were twisted off as they stood in the field, afterwards the Mangolds were pulled and thrown in heaps, then hauled to the cellar. One load was weighed and the other loads were loaded as near as possible to same size. There were thirty-nine loads. The load weighed was 2005 lbs., making 39 tons and 195 lbs. in all. The cost of the crop was as follows:—

Ploughing three times,	$15.00
Cost of manure at the rate of 35 loads to the acre, for 90 rods,	50.00
Four pounds of seed and sowing,	4.00
Cultivating, weeding and thinning,	18.00
Harvesting,	12.00
	$99.00
Credit by 39 tons 195 lbs. of Mangolds, at $10 a ton,	$390.97
Profit of crop,	$291.97

Essex, Oct. 30th, 1882.

Gentlemen:—This is to certify that I have this day seen Mr. Aaron Knowlton measure a piece of land covered with Mangold Wurtzels, and it measured 247 feet long by 100 feet wide making just 90 square rods.

D. B. Burnham.

GRAIN CROPS.

The Committee on Grain Crops have attended to their duty, and make the following report :—

The number of entries of grain crops are six,—four of Rye, one of Barley, one of wheat, and one grass crop.

Only two of the parties that entered a Rye crop made a statement of their crop.

We recommend the premium of $10 to S. S. Pratt, Danvers Asylum.

The premium of $10 on Barley to W. W. Perkins', Newbury.

The premium on Wheat of $10 to Nathaniel Little, Jr., Newbury.

For the largest quantity and best quality of English Hay we recommend the premium of ten dollars to W. W. Perkins, Newbury. Respectfully submitted,

James P. King, Horace C. Ware, Aaron Sawyer.—*Committee.*

STATEMENT OF S. S. PRATT FOR DANVERS HOSPITAL.

The crop of Rye entered for premium by S. S. Pratt for the Danvers Insane Hospital, grew on one acre of land, of a dark heavy loam, with gravelly clay subsoil. The crop of 1880 was sweet corn, manured in the hill with five cords of barnyard manure. In 1881 the land was manured with eight cords of barnyard manure planted with potatoes, yielding a good crop, and was ploughed again the last of August, and sowed to Winter Rye without any more manure.

It was fed in the Fall of 1881, as it was of very rank growth, mowed with a scythe July 17, 1882, bound and put in the barn July 21.

Amount of Grain, 42 50-56 bu. at 90 cts. per bu.,		$38.60
" " Straw, 8665 pounds at 90 cts. a hund.,		77.99
Total credit,		$116.59
Ploughing,	$3.50	
Seed and Sowing,	2.25	
Harvesting and Teaming,	7.50	
Harrowing and Rolling,	3.50	
Threshing and Winnowing,	10.75	
Interest,	6.00	
		33.50
Profit of crop,		$83.09

Attention is called to the fact that from the time (July 21) it was put in the barn, to the time it was threshed, a space of thirty-five days, it shrunk 445 pounds, which is deducted in making up the estimate of profit.

STATEMENT OF NATHANIEL LITTLE, JR.

The crop of wheat which I offer for premium, was raised on one acre of ground, and weighed 2291 lbs.; a crop of onions was raised on the land in 1880, and in 1881 one half was to onions and the other half to potatoes, with the ordinary cultivation of about 20 loads of manure to the acre. No manure used in 1882.

It is due in justice to the crop, to say, that by estimation there was one bushel, or more, contributed to various parties for æsthetical purposes; and owing to a delay in threshing, a like quantity to the rats and mice, for more practical uses.

This will certify that I weighed the above wheat, and that the above figures, 2291 lbs., are correct.

N. W. Moody.

This will certify that I measured the above land, and that the quantity, one acre, is correct.

SIDNEY F. NEWMAN.

STATEMENT OF WILLIAM W. PERKINS.

To the Committee on Grain Crops :—

The crop of Barley I offer for premium was raised on 250 rods of land, measured by John C. Rolfe. The barley was measured by J. H. Tumly, 67 bushels; weighed by James H. Ilsley, and weighed 50 pounds to the bushel. Two years, 1880 and 1881, the land had been planted with corn and sugar beets, with about seven cords of stable manure to the acre. For many years previous to 1880 the ground had been used as an onion bed. The soil is a clay loam. I have not kept a record of the expense of cultivating the crop, and do not know the price of barley. Straw is worth $12 per ton; I should judge there was about one and a half tons.

STATEMENT OF WM. W. PERKINS.

The crop of grass entered by me for premium was raised on one acre of land, measured by James H. Ilsley; weighed by Frank Perkins, at the time it was put into the barn, and weighed 7240 pounds.

The ground for many years previous to 1879, at which time it was laid down, was an onion bed; no top dressing had been applied since it was in grass, until last fall, when I spread one barrel of ground bone, about 250 pounds, without composting. The land is gravelly with clay loam. I have tried the bone dust one year, and was favorably impressed with it; shall use it again this fall.

FARMS.

There have been two entries of farms for the Society's Premiums, and a visit was made in June by a part of the Com-

mittee. When the drought came on so severely as to stop the growth of nearly all crops, the Committee deemed it unadvisable to continue the visiting further, as no correct judgment could be passed upon the real condition of the farms entered; therefore no awards have been made. But it is hoped that those who have entered their farms this year will, with others, enter them another year under more favorable circumstances.

BENJAMIN P. WARE, *for the Committee.*

SILOS AND ENSILAGE.

In presenting this subject to the farmers of Essex county, we do so fully realizing the difficulty and the delicacy of the task; the difficulty of obtaining reliable data in regard to the cost of producing and storing ensilage, is seen from the fact that very much of the information gained is entirely dependent on the judgment of the producer; and also from the fact that the deductions of science, as shown by the most thorough and rigid analysis, in regard to the nutritive qualities of ensilage, differ so widely from the results gained from the practical tests that have come under our own observation. And the delicacy of the task is at once perceived, when you remember the widely differing opinions as to the merits or the demerits of the whole question involved, and that, too, by men for whose opinions we have the highest regard. But notwithstanding the widely differing opinions that exist among our farmers, and the fact that these opinions are sometimes expressed in language more forcible than elegant, yet we are charitable enough to believe that they express the honest convictions of their authors; we believe that the intelligent farmers of Essex County are honestly inquiring after the truth in this matter of preserving green fodder for winter use. Facts are what we want, not abstract theories that have never been put to the test of practical application, for the laboratory of the field gives a different result from the laboratory of the school,

simply because the conditions are different; consequently the combinations are different, hence the widely differing results. Without doubt one reason why some of our farmers have either opposed this new method of preserving green fodder or have looked coldly on while their more zealous neighbors have been experimenting and succeeding, is the notorious fact that no class of our fellow citizens have been so imposed upon as farmers. If you doubt the statement call to mind the fortunes made (in your mind) by purchasing the exclusive right to sell Patent Churns, Patent Hay Forks, Patent Stump Pullers, Canker Worm Exterminators, Potato Bug Catchers, and last but not least, Patent Spring Beds, upon which every farmer may sleep and dream of fortunes to be made by investing largely in corner lots in cities yet to be, in the great and growing West. Who can blame an honest victim of these frauds, for standing so erect as to lean just a little backwards.

Hence in pursuing our investigations we have endeavored to obtain the facts in regard to this very important subject, leaving the scientific aspect of the subject to those who have the time and taste for that very important department of the investigation; and as far as we have been able to obtain them, and present them to the consideration of the farmers of Essex Co., the results of the experiments made by practical farmers of our county. We have therefore entered into a very extensive correspondence with the farmers who have built silos, and stored the ensilage, and have fed it to their stock from one to three successive years.

We have also visited several of these silos when opened, and some of them after they had been opened for three months. In most cases our visits and our correspondence have met with the most cordial reception. In one or two instances the replies to our questions would lead one to suppose that their authors felt that they were in the possession of some great secret which they did not wish to communicate to the outside world. Our method of procedure was to send to every farm-

er in the county who had built a silo, a postal card bearing the following questions :—

1. Capacity of your silo ?
2. When built ?
3. Amount of ensilage stored ?
4. Kind of seed used ?
5. Which do you like best ?
6. When do you begin to feed it ?
7. Do you make milk or butter ?
8. Does your stock gain or lose ?
9. Entire cost of producing it ?
10. Do you consider it a profitable crop ?

In addition to the above, we have corresponded with more than fifty different farmers outside of our county, that have built from one to fourteen silos each, having stored the ensilage and fed it to all kinds of farm stock, and in no instance have we received a report of a partial failure.

And without going into the details of the replies received from the several owners of silos, we will give the general results deduced from them as they appear to your committee.

1st. That this method of preserving green fodder for winter use is a success, when the necessary conditions are secured.

2d. That ensilage is a nutritrious and profitable feed for all kinds of farm stock, but especially adapted to milch cows.

3d. That the flavor of the milk and butter is not much different from that made with summer green feed, but is more uniform.

4th. That there is invariably an increase of flesh and flow of milk, when the same amount of grain is fed with it as with English hay.

5th. That the quality of beef is very much improved by its use in connection with other nutritious food.

6th. That in order to reach the best results, ensilage should be fed with some other nutritious fodder, even for cows.

7th. That all kinds of grass or grains may be stored with

safety, but that corn and clover mixed with apples makes the best ensilage.

8th. That the finer it is cut, and the more heavily it is weighted down, the better, as the air is thus expelled from the silo; which alone secures its preservation.

9th. That there is not much difference between the Southern White, Blunt's Prolific, and Bailey's Mammoth Corn, for seed; all are good.

10th. That the cost of producing and storing ensilage is from two to four dollars per ton.

11th. That the best material for constructing a silo, in Essex county, is stone and cement; and the best material for weighting the ensilage is stone of from twenty-five to fifty pounds weight.

12th. That it will not pay to plough up land that is now yielding two tons of hay to the acre to plant ensilage corn; but land that needs ploughing up and working over, or as a second crop following some early crop. There is no better crop for fodder than one that you can ensilage for winter use.

In thus presenting the results of our investigations, we have not taken the extreme statements of our correspondents of either side, but have endeavored to present the substantial facts in the investigations, realizing that the whole subject is yet in its infancy with us, although very thoroughly understood and applied by our neighbors across the sea. But we have no doubt that during the next ten years such improvements will be made in producing, storing, and feeding ensilage, that it will take its place among the standard farm crops of the country, and from the fact that we have built twenty-three silos in less than four years, we infer that Essex county will not lag behind the other sections of the country in this branch of agricultural science.

O. S. Butler, *for the Committee.*

REPORT ON APPLES.

BY T. C. THURLOW.

The exhibition of apples this year was unusually good, especially for such an unfavorable season—and we would heartily congratulate the fruit growers of this county upon the interest taken in this, the most important of all fruits, and for the skill and care required to produce and exhibit so many, and so fine specimens. Judging from the quality of apples seen at other fairs, we expected a very meagre show at this, but were happily disappointed at finding it very nearly up to the average of other years. For varieties we find nothing better than our good old native sorts—of which the Baldwin stands at the head—and until we find something better, shall recommend this as "the apple" for profit in this section of country, especially upon land of moderate fertility. Upon rich loam or clay soils the Roxbury Russet often does well, but even on such land the Baldwin would pay the best. The Hubbardston Nonsuch (another native,) on warm land, with good cultivation, generally does well, and is an excellent paying fruit. The Gravenstein (a foreign fruit) adapts itself remarkably well to our location, and we believe on good land with *high cultivation*, can be made as profitable as any other variety; its excellent quality and fine appearance will always find it a ready market, and where best known is getting more popular every year. There are other excellent varieties of apples, both foreign and native, some of which under certain circumstances may be more profitable than any of these; also a large number of kinds which may be desirable in an amateur collection, or for dessert or table use—but we would earnestly urge the farmers of Essex County to the growing of apples as a *specialty*, and in doing so to plant only a very few of the best known market varieties. We are thus emphatic in our appeals, knowing that farmers as well as those who own small gardens, are too apt to be over persuaded to buy trees with high sounding names, or from seeing overdrawn pictures in plate-books.

Perhaps the hardest and most perplexing thing we agriculturists and horticulturists have to contend with, is the multitude of insects, both new and old, which sometimes almost baffle our efforts and exhaust our patience; and it does appear as though the apple had more than its full share of these insect enemies. We have just learned to cope successfully with the borer, the caterpillar and the canker worm—have learned the habits and best known remedies for the curculio and apple worm or codling moth, when a new candidate appears in the shape of a small worm or magot, which perforates the entire body of the apple, often rendering the fruit of whole orchards nearly worthless. This worm does not appear to have been described by Dr. Harris or other writers of a few years ago, and although the worm has been noticed for many years in a few varieties of apples, especially early ones, it has not till very recently been known to damage whole orchards. There are locations in New Hampshire where certain varieties have been entirely ruined by them, and we hear that it is increasing in this vicinity. We are glad that our Essex Society has just offered a liberal premium for some way or means of preventing the ravages of this insect, and it becomes us all to watch and study its habits, not doubting but we shall ere long discover an effectual remedy.

We would call attention to the fact that the soil in many of the orchards of this county has become exhausted by continual cropping without any adequate return. A very shallow ploughing, with a good dressing of manure, potash or lime, would in nearly all cases be beneficial, and we have seen the best of results from the pasturing of orchards with sheep, hogs or poultry. We have not time to extend these remarks, but would again congratulate the exhibitors of fruit at the late fair, especially the *young* men, of whom the contributors were very largely made up—many whose names we have never before seen upon the exhibition tables. This is a step in the right direction and we beg of you not to feel discouraged, or think you were overlooked if you do not all see your names among

those who took premiums or gratuities. It is impossible for any committee to do full justice in such an exhibition as this, but we have this satisfaction, that we *tried* to do the best we could under the circumstances.

TREADWELL FARM.

Report of the Committee on Treadwell Farm.

By referring to the report of last year it will be seen that the farm was leased to Mr. Philbrook for a term of years, but by his non-compliance with the condition of the lease by failure to pay the rent, the lease was cancelled by the committee and re-leased to T. W. Pierce, Esq., of Topsfield, for a term of seven years, at an annual rent of $300. The farm buildings have been put in good condition, and will require no further repairs of importance for several years.

A series of experiments with the culture of potatoes, were started under the direction of the committee, in the spring, but owing to the severe drought that has so seriously interfered with the success of farming in most parts of the county, the experiments have resulted in failure as the products were of no account, and the crops of the farm have been very small from the same cause.

STATEMENT OF WM. B. CARLTON.

TOPSFIELD, Dec. 5th, 1882.

From the data at my command I infer there has been applied to the farm about 19 cords of manure, largely from a slaughter house, and 12,600 lbs. of Hill and Drill and Stockbridge fertilizers.

The season has been extremely unfavorable for this farm, so that cultivated crops have been more or less a failure.

More than an acre of beans planted did not realize more than the seed.

The crops produced have been :

Asparagus,	150 bunches.
Apples,	35 bush.
Cranberries,	4 "
Potatoes,	78 "
Squash,	1145 lbs.
Corn,	261 bush.
" stover,	35,680 lbs.
Barley fodder, (estimated)	500 "
English hay, "	16 tons.
Meadow hay, (weighed)	35,680 lbs.
Turnips, (very poor)	350 bush.
Rye,	21¾ "
" straw,	1 ton.

The pasture has carried from 12 to 14 head of cattle and horses.

There has been considerable cleaning up of rubbish and bushes along the walls and other places, so that the farm generally presents a respectable appearance. The lease provides that proper measures shall be directed toward eradicating wood-wax and bushes from the pastures, which have made considerable growth there.

For the Committee, BENJAMIN P. WARE.

ESSAY.

APPLES.

ESSAY BY JOSEPH HOW OF METHUEN.

There having been no application for the premium for new variety of winter apples within the past year, there has been no occasion for a meeting of the committee. Your chairman, however, ventures to offer a few remarks and suggestions from his own experience and observation. The liberal premium of $100 that has been offered for many years by the Essex Agricultural Society for a new variety of winter apples equal to the Baldwin or Roxbury Russet has not had the desired effect, for no new variety has yet been produced which in the opinion of the committee is equal to those varieties. Still we think good is resulting from the offer, as it is creating much interest and discussion not only in our own county but elsewhere. We have repeatedly received letters from persons in and out of our state saying they had seen our reports and were deeply interested in the subject, and feel the importance of a new variety of late keeping winter apples. A person from the state of Maine wrote to me for scions for experiment in comparison with other varieties, saying that he was scouring the country for a variety of late keeping winter apples, and that he was intending to sow a nursery in the hope of getting a new variety from seedlings. He intends also to experiment on cross grafting. That man is on the right track and good will most assuredly result from his efforts. We think there never was a time when there was so much encouragement to produce apples as the present, particularly winter apples for foreign markets. The hard rocky soil of Essex County is particularly adapted to produce hard, long keeping apples for that purpose. The Baldwins are the best and most popular winter apples in New

England; they are well adapted to different soils, and are more largely produced than all other winter apples put together. No new variety can be expected to excel them. It has been said by one who has traveled largely in Europe as well as in our own country, that the Baldwin apples were the best apples in the world, which is a strong expression, but we think it may be strictly true. The Roxbury Russets are of superior quality, and it is an old variety said to have originated in Roxbury. It will keep better than the Baldwin and retains its life and vitality better but is not a good bearer. We have during the past year ourselves tried to get what information we could in regard to their productive qualities in different localities, when compared with the Baldwin. As they originated near the sea shore they seem better adapted to that locality than to the interior. One person living near the sea shore thinks they will produce nearly as much as the Baldwin, as they would usually bear every year which the Baldwin does not. Another person not far distant thinks he could produce two barrels of Baldwins to one of Russets; another further in the interior thinks he could produce three barrels of Baldwins to one of Russets; another five, and another had cut his trees down they were so unproductive

From our own experience and observation we think the above is a fair representation of the general experience. What is now wanted is a variety that will keep a few weeks longer than the Baldwin, and be its equal in quality and productiveness. Such apples could be carried to more distant markets and be in greatly increased demand. There are various kinds of late keeping apples produced such as the Russet, the Runnels, the Orange Pippin, the McCarty, Red Russet, and many others, but none of them seem to meet the wants of the people like the Baldwin in their season.

The Red Russet appears to have originated from a cross of the Baldwin and Roxbury Russet, as described in our report published in the Essex transactions for 1880. It is of good parentage, and we cannot see why their good progeny should

not be equally good. Much difference of opinion exists however in regard to its value. Now we say test them. Cut the scions from the best trees, those that produce the best fruit for keeping and quality and are the best bearers. Set your trees on high, deep, loamy land. If rocks are plenty they will do no harm provided there is sufficient loam for the wants of the trees. If then they will not pay for cultivation try some other variety, as no apples should be propagated to much extent that will not pay for cultivation. This important subject offers an unbounded field for exploration.

Two years ago we made a report giving such information as we had on the subject of cross grafting. Since that time we have sought and received further information upon that subject, and believing it may be of much importance to the cultivator, have thought proper to allude to it again in this essay. In the Boston Congregationalist an article was lately published, asking, what makes so much difference in the Baldwin apples? The reply was that the fruit was sometimes influenced by the stock into which it was grafted. The soil on which they grow has also much to do with the quality of apples. Another article followed in the same paper over the signature of Essex, asking if the opinion that the fruit of the scion is influenced by the stock is correct? May not the Baldwin be grafted into some late keeping winter stock and improve its keeping qualities? The reply was that no reason is seen why if the grafts are influenced by the stock, as we know they are more or less, the plan suggested by Essex might not work well.

The editor of the Congregationalist says he knows the stock in some cases has an influence on the fruit of the scion. We fully believe it, as we have repeatedly seen it in our own orchard, and we have abundant evidence from others. We think large trees when grafted have more influence than small ones. Two years ago in our report we suggested a plan for cross grafting that we now think will be ineffectual. The plan was to cut the grafts the second year from those of the first year, and so on from year to year. We now think this will not have the

desired effect, for the reason that the stock the first year will have but little effect on the scion. The Roxbury Russet is a late keeping variety, and if the Baldwin should be grafted into that stock we might see such results. Essex also asks at the same time what kind of land is best adapted to growing late keeping winter fruit, and is high cultivation desirable? Reply: Fruit grown on high, rocky land will keep longer than that grown on richer lower land, and also that fruit grown on trees standing in the grass will keep much longer than that raised on trees that have received high cultivation.

One of the Trustees of our Society said to us at the trustees' meeting in June, 1881, that he had just been picking over and selling his Russets, and those that grew on trees scattered over the farm have rotted less and are now harder and better than those that grew on his best orchard. Substantially the same remark has been repeatedly made by our farmers when asked where their best keeping apples grow. On our pastures has been the reply in nearly all cases. These pasture apples spoken of are usually apples that grow on trees that have come up naturally in the pastures and have been grafted with Baldwin scions. One of those persons who said that the best keeping apples grew in pastures, said that he had a Baldwin tree that has the wash from the sink spout and the apples grow large, but are of poor quality for keeping.

In the early part of the present century there had sprung up on my father's premises a lot of young apple trees, that he in due time grafted mostly with R. I. greenings, then a new variety from Rhode Island, a few russets and green sweets, which were the principal winter apples then produced in our vicinity, (baldwins were not then known). The trees are on descending ground from the barn and its surroundings, so that the land has been kept rich from the wash passing over it, and some of it excessively so. The grafting of those trees by my father, their thrifty appearance as seen from the house that was near, and the great fine apples produced, caused a sensation in my boyhood that I cannot well forget. I have been

familiar with the orchard from that day to the present, and nearly every year have assisted in gathering the fruit. Some of the trees died, as he supposed from the excessive richness of the ground; others have partially died, and new branches have grown out that are now in bearing; others have grown broad and tall like forest trees. As I look back upon this orchard after a long lapse of time, I have come to the conclusion that as a rule the apples have been larger, but prone to decay. It has been quite common for them to rot on the trees, so that they would go for cider or waste on the ground, and those that were carried into the cellar must soon be disposed of; those on the richest ground have rotted the most. About forty years ago we were desirous of increasing our orchards. Knowing that apple trees growing by an old stone wall where the land is uncultivated, grow much better than those in the open field, we concluded to try the experiment in an old hill pasture. We purchased from old nurseries trees that had not been grafted, but were of sufficient size to be grafted six or eight feet from the ground, cut off the tops and brought home only the body of the trees and the roots. They were set out near the stone walls, stones piled around them to protect them from the cattle, and grafted mostly with baldwin scions. Most of the trees and scions lived and did well. We set out more than a hundred trees; they have had no cultivation or manure and but little pruning. When the caterpillars appeared they were destroyed, and fortunately the canker-worm did not find them until the last two or three years. They are now nearly all living and in good bearing state. The apples they have produced have been of better keeping quality than those produced in our fields, and we think as a rule, they have been quite as productive, although the apples have not been quite as large. Two other similar cases with similar results have come to our knowledge, corroborating the opinion that rocky, uncultivated soil, yields better apples for keeping and flavor, but usually not so large as richer land; such apples are of more value for foreign markets.

On the northerly side of the Merrimack and not far from its borders there is an old hill pasture, on which sprang up many years ago bushes and young wood, with a large number of thrifty young apple trees. The apple trees were grafted with various kinds of fruit, baldwins, however, predominating. The young wood was partially cut away from time to time in order that the apple trees might have the ascendency. Many of these trees are on a steep side hill with the road at its foot. When passing in on an Autumnal day, with the sun shining on the bright red apples, it is not unlike an oasis in the desert, a very pleasing sight.

The owner of this orchard informs me that the apples are usually of good size and quality, and that it has produced in one year more than four thousand bushels. It is still kept as a pasture and has no cultivation whatever. The soil is a rich deep loam, with some stones. There has been no trouble as yet from canker-worms. We have alluded to the color of these apples which is an important consideration. The rays of the sun cause the color and also improve the quality of the apples. A red apple is better than one that is not red of the same variety, hence it is desirable so far as possible, that trees should be broad but not high, that they may receive more of the rays of the sun and also be easier to gather. An orchard in our town on what is termed gravelly land, produced five years ago a good crop of apples without cultivation or manure. The apples were picked and a portion of them sold to go to Europe. They were marked with the initials of the owner's name, and sent with others. Soon after a message came back for more of the apples marked with this man's initials, but none of the other kind. The next year another message came saying, those apples were unusually good for keeping and for quality, and more of the same kind was wanted ; unfortunately for the owner the orchard did not bear that year. In the same orchard there were trees on a low rich spot that produced larger apples which attracted the attention of the neighbors,

who purchased them for their own family use. Soon there was complaint that the apples did not keep well.

There is much difference in what is called gravelly land. There is a kind of soil composed mostly of sand and pebble stones of the size of coarse sand upwards, that is unproductive for almost any crop. The gravelly land above mentioned is of a different nature. It is a rich loam with a large mixture of apparently broken stones, as one digs for a cellar or well he soon comes to larger stones, and eventually in most cases to a solid ledge. The roots of the trees will find their way where the pick and spade will not penetrate, and sometimes to a great depth. Trees have been set where it was with difficulty that sufficient soil to cover the roots could be obtained. The trees would live there and bear the best of fruit. In regard to unproductive land, we have a case to the point. A gentleman from the county of Middlesex informs us, that many years ago he planted an orchard and grafted it with scions from the original baldwin tree, and received the society's first premium on young orchards. On enquiry about the soil and cultivation, he said the land was a sandy gravel, was freely manured and kept cultivated, and further represented that the trees soon began to decay and eventually died. It thus appears that such land is not profitable for an orchard, although with high cultivation a premium may have been received.

Last winter and spring we repeatedly called at the stores and shops where apples were sold to ascertain how the apples compared that were purchased of different farmers and from different localities. Two things were observable. First, nearly all the apples that came to our notice were Baldwins, and few other varieties except some Russets in the spring ; showing that there were but few other apples produced. Second, there was a great difference in those Baldwins. We should hardly have known some of them as Baldwins had we not been told. We think the cause of this great difference must be the influence of the stock on the fruit of the scion or from the soil on which they grow; both may have had their influence. The soil has a

similar effect on many other crops. A medium crop of hay that grows on high, warm land is sweeter and better than that which grows on low land, and will impart an odor that low ground hay does not possess. We heard a man who fattened cattle in winter say many years ago that they fattened much better upon high land than upon low land hay. The same principle will apply to high manuring. Hay that yields from three to four tons to the acre is not as good as that which yields half that amount. The same results are obtained with potatoes, beets, squash and many other crops. It may be, however, necessary on some lands to cultivate and manure to get a medium crop. The question is asked why manure highly if the crop is not as good? We reply, it is considered more profitable to raise twice the amount of hay by extra manure, and the hay is often quite as saleable in the market, also the other crops.

We do not undervalue good culture and free use of manure, for the success of the farmer depends upon it. We think, however, much discretion is necessary in using it to the best advantage for different crops, particularly for late keeping winter apples. Some farmers choose to manure, will get larger apples and sell early; this is all very well, as good apples are wanted in our markets, and large apples will usually sell better than smaller ones. There are others who cultivate with particular reference to growing large apples. They manure highly, keep the land under constant cultivation, prune closely, and if necessary pick off part of the apples when small, then the fruit will usually grow large and will adorn the table at the fair. But keep those apples until the spring if they will keep so long, and we think they will be found to be not as good as apples grown on pasture land. The noticeable difference in Baldwins goes to show that their quality has been reduced or improved by grafting into poor or good stocks. May not then the good qualities of the Baldwin be imparted by cross grafting into other varieties of apples, such as the Red Astrachan, the Gravenstein, Hubbardston-Nonsuch, and others. We think it a subject worthy of the attention of our apple growers, and hope it will be tested by experiments.

Swine have in some instances been kept in orchards with good effect, sheep like to roam over just such land as we have described. If such could be set with trees, where there is a rich, deep soil, and cultivated around the trees for a few years, and then stocked with sheep, we have no doubt it would be a profitable investment, if the sheep can be protected from dogs. Inform our legislators of the result, and we should hope they would change the laws and protect the sheep instead of the dogs. In view of what has been said may we not suppose that there is much land in the County of little value, that may with little or no cultivation, produce large quantities of the best quality of late keeping winter apples. Our object in writing this essay has been to increase the production of late keeping winter apples. Our long life of more than four score years has been spent on an apple growing farm, and in an apple growing region, and our opinion now is, that the apple crop has been as a rule, quite as profitable as other crops, notwithstanding all the obstacles we have had to contend with. The caterpillar and the canker worm prevailed in our early days. We well remember in days of boyhood, carrying the kettle of tar in one hand and brush in the other, to tar our father's trees to protect them from the ravages of the canker worm. That pest has prevailed more or less over the orchards from that day to this, and those persons who have protected their orchards from those insects, have been well remunerated for their trouble.

More recently the borer has made much trouble in some young orchards, and now the apple worm has increased to such extent as to almost destroy the whole crop, and the worst of it is there seems to be no remedy. We have taken considerable pains within the last two years to get what information we could in regard to their habits. They appear in the early part of the season, enter the apple, perform their work of destruction, then leave the apple. Others follow on in course through the season. We have some new cases the present year, as late as October, where we have cut the apple and found a worm

just eating into it. Thus new recruits have been coming during the season, and on gathering our apples but few perfect ones were among them. We have examined large numbers of apples by cutting them open immediately after they drop from the tree, and find the much greater proportion of them without worms. They had spoiled the apple and left it. That being the case, picking up the apples and using them destroys but a small proportion of the worms. Where the worms go after leaving the apple we know not, but shall leave the subject to others who know more of their habits.

FARMERS' INSTITUTES, 1881-2.

The 11th Institute was held at Peabody, December 14, 1881.

Opened in the forenoon by a paper read by O. S. Butler of Georgetown, on the question of Farmers' Institutes, their objects and the methods of conducting them; followed by a discussion.

Voted, That Mr. Butler be a committee to collect facts regarding Ensilage, and report at a future meeting.

Voted, That a committee to investigate the subject of eradicating *purslane* from the soil and to report at a future meeting, consist of Messrs. J. J. H. Gregory, Aaron Low, W. F. Batchelder and E. G. Nason.

Also a committee on eradicating *witch grass*. Messrs. Ansel W. Putnam, James P. King, J. J. H. Gregory and Asa T. Newhall.

The afternoon discussion opened with an address by J. J. H. Gregory, on the cultivation of *potatoes*.

Mr. Butler offered a resolution in favor of a State Experimental Station, and it was voted to petition the Legislature to establish one.

The 12th Institute was held at Ipswich, January 11, 1882.

In the forenoon, Ansel W. Putnam of Danvers, opened the discussion on *Ploughs* and *Ploughing*.

In the afternoon, J. J. H. Gregory introduced the subject of the improvement of wood and pasture lands, which was followed by a discussion.

The 13th Institute was held at North Andover, Feb. 1, 1882.

In the forenoon it being very stormy no exercises were held.

Mr. Asa T. Newhall of Lynn opened in the afternoon with a paper on the management of *farm stock*, followed by a discussion.

The 14th institute was held at Amesbury, Feb. 23, 1882.

Subject in the forenoon, the culture of the *apple*, with a paper by Thos. C. Thurlow of West Newbury.

Afternoon subject, Silos and Ensilage, with a report by O. S. Butler, followed by discussion.

The 15th Institute was held at Topsfield, March 9, 1882.

In the forenoon the discussion was commenced by the reading of a paper by John B. Moore, of Concord, on the *grass* and *hay* crop.

In the afternoon A. A. Smith of Coleraine, read a paper on *sheep husbandry*, which was followed by a discussion.

The 16th Institute was held at Rowley, March 23, 1882.

An essay was read by Francis H. Appleton, and discussion followed on the *corn* and other *grain crops*.

Mr. Asa T. Newhall read his paper on the management of *farm stock* in the afternoon, which was followed by a discussion. The meeting adjourned, this being the last to be held for the season.

CHAS. P. PRESTON, Sec'y.

COMMEMORATIVE.

Resolutions of respect to Gen. William Sutton and others, past trustees and members.

The following Preamble and Resolutions were adopted at the annual meeting of the Essex Agricultural Society, September 26th, at Haverhill :

Whereas, it having pleased our Heavenly Father in his Divine Providence to remove from our midst by death within the last year an unusual number of our oldest members, who have served the society long and faithfully in various capacities, having used their influence and strength of character in behalf of our Society and in the interest of the promotion of agriculture,—

Gen. William Sutton of Peabody, a former Treasurer and President.

E. G. Kelly of Newburyport, as Orator and Trustee.

E. R. Mudge of Swampscott, Trustee.

Calvin Rogers of West Newbury, Trustee.

Franklin Alley of Marblehead, Trustee.

Horace Ware of Salem; Augustus Story of Salem; Frederick Robinson of Marblehead; Charles Ingalls of Methuen; and James T. Fields of Manchester. Therefore

Resolved, That while we humbly submit to this severe dispensation of Divine Will we sincerely mourn their loss to us. They were our associates and co-workers, whom we loved to meet and whom we shall ever hold in kind remembrance.

Resolved, That in feeling the great loss to us as esteemed members of our society, we also heartily sympathize with the families of our departed brethren in their greater loss and bereavement.

Resolved, That the Secretary be requested to furnish copies of these resolutions to the several families of our departed friends.

Gen. Sutton was Treasurer of the Society for twenty-four years, during which time the permanent invested funds and other property of the society accumulated to some $25,000. He performed the responsible duties of that position with perfect accuracy for that long period without any compensation other than the satisfaction of rendering valuable service to the Society that he loved. In 1865 he was elected without opposition to the Presidency, which office he held for nine years, when he declined further election.

These many years of faithful services to the Society, with his genial and generous nature, so endeared him to the members of the Society that it was with the utmost regret they consented to release him from further service as their presiding officer. He promised to continue to meet with them and work with them, which he did, as long as his health would permit. Gen'l Sutton loved the farm and all of its belongings. He was probably the largest land holder in the County, owning more than 1200 acres in fine farms, the management of which he personally directed ; this he considered a source of recreation rather than a business. For forty years he was President of the First National Bank of Salem, to which he gave daily attention. He was largely interested in manufacturing. Early in life he was actively interested in the Militia of the State. He has served several times in each branch of the Legislature and such was his popularity among the people, that he was often selected on a doubtful issue as a candidate sure to succeed. He served many years as Chief of the Fire Department of Salem, and many will remember that at a time of general alarm on account of numerous incendiary fires, Gen'l Sutton's constant vigilance did much to restore the confidence of the people. He was elected by this Society for several terms, a member of the State Board of Agriculture. He was a popular member of the fraternity of Masons in the higher degrees. His name is borne by various organizations in the County and State. He was blessed with wealth and was generous and free in its use. Indeed his has been an eventful, busy life, beloved by all who knew him. Such is the man whose loss we mourn.

Dr. E. G. Kelly of Newburyport was deeply interested in Forestry and Pear Culture ; he served many years as Trustee of this Society, and on one occasion delivered the annual address, replete with witticisms, and valuable suggestions. His presence at our annual gatherings and trustee meetings, will long be remembered by his associates as adding zest and life to the occasions, and his absence will be long felt.

Horace Ware of Salem was one of the pioneers of the Socie-

ty, and ranked among our most successful Market Gardeners and milk producers. He was a careful and wise counsellor in the progress of the Society, and a highly esteemed and respected member.

E. R. Mudge of Swampscott became a member of this Society in 1848, and was elected a Trustee the same year. He owned a fine farm in Swampscott. His attention, was however, mostly given to his mercantile and banking business. He served one term in the Senate with much credit, having keen insight into the business and relations of legislation. He accumulated a large fortune, and erected at his own expense in Lynn, a Memorial Church, which is considered one of the most beautiful in the country. This church was completed just in time to receive his remains, at his death.

Frederick Robinson of Marblehead was an early member of this Society, and the later years of his life were spent upon his farm which he loved. His has been an eventful life, his strong intellect and persistent character were felt in the political movements in the State many years ago ; he was a prominent member of the legislature for several sessions, afterwards Warden of the State Prison, and much respected as such. He made the banking system of the country a study for many years. He was a man of marked ability, and commanded the respect of all who knew him.

Augustus Story of Salem, although not a farmer, became a member of the Society from a love of the cause of Agriculture, and the respect he had for the Society itself. In honoring it he felt that he also honored himself.

Calvin Rogers of West Newbury was a highly respected farmer and served several years as Trustee of this Society. He has often been appointed on important committees, and his judgment was reliable.

Charles Ingalls of Methuen, although engaged in manufacturing, was thoroughly interested in the doings of this Society. He was constant in his attendance at every meeting, and took an active part in the discussions that came up. He was a genial and pleasant member to associate with, and few will be more missed than he.

Franklin Alley of Marblehead was one of the best market vegetable growers in the County. He followed the Boston market for many years, and made a point of sending one or more loads of the choicest vegetables to Boston every day during the season. He was a kind, genial neighbor, an excellent farmer, an enthusiastic member of this Society, and a Trustee of it for several years. He leaves three sons, all farmers and members of this Society, having brought them up to respect a society whose aim is to elevate his calling.

REPORTS OF COMMITTEES.

The committee to award premiums on Reports of Committees received four papers, presented in due form, and after reading them carefully and considering their merits, decided to award the three premiums intrusted to them as follows :—To O. S. Butler of Georgetown, for his Report on Silos and Ensilage, the first premium of $10. To Asa T. Newhall of Lynn, for his Report upon Root Crops, the second premium of $8. And to David W. Low of Gloucester, for his Report on Vegetables, the third premium of $6.

Mr. Butler's report on Silos and Ensilage embodies the results of a very exhaustive study of this important subject, and must be read by farmers with great interest. The extensive correspondence which the author has had with those who have built and used silos, gives great weight to his conclusions and inferences. Indeed the valne of his paper is mainly in the "results" which are given by him as being justified and sustained by the replies to his enquiries upon the subject. Mr. Newhall's report on Root Crops, contains valuable information upon this subject, and is a record of practical observations which cannot fail to interest the reader. Mr. Low's report on Vegetables, is a curious and highly interesting historical review of the vegetable department in the Society's annual

exhibitions from an early day. It will very likely surprise many to learn how humble was the position of the Vegetable in the early shows, and how recently in comparison has it come to attract its proper share of attention. As a record of the growth of this department, Mr. Low's paper is well worth perpetuating in the society's proceedings.

The committee would have been pleased to receive a larger number of reports for their consideration, as these papers are almost always of value for publication, even when not awarded a premium, and they consider it good policy for the society to continue to offer liberal sums to stimulate practical cultivators to give the public the benefit of their experience.

G. L. Streeter, Salem; D. E. Safford, Hamilton; Charles P. Preston, Danvers; N. M. Hawkes, Lynn.—*Committee.*

Dr. GILBERT L. STREETER, TREAS., IN ACC'T WITH THE ESSEX AG. SOCIETY. Cr.

1881.			1881.		
October.	To balance of previous account,.....	$19 00	Sept.	By Amount of Premiums and Gratuities awarded by Trustees,.....	$1854 00
	To Bank Dividends in October,.....	459 60		By Bills paid on account of Annual Exhibition,	165 44
Dec. 28.	To Cash received of Committee in charge of annual exhibition,.....	257 96		Bills paid on account of Treadwell Farm,	4 63
	To State Bounty received from State Treasurer,	600 00		Bills paid for Printing and Advertising,	209 82
	To State Tax on Bank Stocks refunded,.....	199 39		Sundry small bills,.....	1 65
	To rent of Treadwell Farm received,.....	400 00		Rent paid Salem Athenæum,.....	25 00
	To Amount received for new members,.....	138 00		Secretary's account,.....	252 38
1832.				Treasurer's account,.....	52 50
April.	To Bank Dividends due in April,.....	442 10		Interest on Temporary Loan,.....	24 45
	To Amount of unclaimed premiums,.....	94 25		Balance to new account,.....	20 43
		$2610 30			$2610 30

FUNDS BELONGING TO THE SOCIETY, OCTOBER, 1882.

	Cost.	Market Value.
10 shares in Nat. Hide and Leather Bank, Boston,	$1101 87	1150 00
3 shares in Nat. Revere Bank, Boston,	377 62	360 00
18 shares in First National Bank, Salem,	1914 66	2160 00
18 shares in Salem National Bank, Salem,	2000 00	2160 00
42 shares in Asiatic National Bank, Salem,	1281 25	1890 00
12 shares in Mercantile National Bank, Salem,	1226 50	1440 00
23 shares in Merchant's National Bank, Salem,	1189 50	1495 00
5 shares in First National Bank, Danvers,	375 00	500 00
8 shares in National Exchange Bank, Salem,	800 00	960 00
16 shares in Warren National Bank, Peabody,	1595 40	2400 00
15 Shares in South Danvers Nat. Bank, Peabody,	1471 25	2175 00
Cash on hand,	20 43	
	$13,353 48	16,690 00
Funds reported last year,	13,352 05	
Gain,	$1 43	

GILBERT L. STREETER, Treasurer.

Nov. 9, 1882.

SALEM, Dec. 1, 1882.

The undersigned has examined the foregoing account and finds the same to be correctly cast and properly vouched, and I have also examined the securities and find them to be as stated.

JOS. H. PHIPPEN, Auditor.

OFFICERS OF THE SOCIETY.

FOR 1882-83.

PRESIDENT.

BENJAMIN P. WARE, of Marblehead.

VICE-PRESIDENTS.

GEORGE B. LORING, of Salem.
J. J. H. GREGORY, of Marblehead.
THOMAS C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

HONORARY TRUSTEE.

JOSEPH HOW, of Methuen.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

TREASURER.

GILBERT L. STREETER, of Salem.

TRUSTEES.

Reuben Alley, Marblehead.
Francis H. Appleton, Peabody.
Oliver S. Butler, Georgetown.
Thos. K. Bartlett, Newb'ypt.
Charles C. Blunt, Andover.
William A. Brown, Hamilton.
Zachariah Cole, Wenham.
Geo. W. Chadwick, Boxford.
O. Loring Carleton, Middleton.
E. G. Dole, Salisbury.

Andrew Dodge, Beverly.
Alden C. Estes, Rockport.
George W. Gage, Methuen.
Charles H. Gould, Danvers,
John J. Gould, Ipswich.
George L. Hawkes, Lynnfield.
Samuel Hawkes, Saugus.
J. Henry Hill, Amesbury.
Edw'd Harrington, Groveland.
Wm. H. Haskell, Merrimac.
Thomas Hale, Rowley.
Jas. T. Johnson, No. Andover.
N. Tenney Kimball, Bradford.
Aaron Low, Essex.
Nath'l Little, Jr., Newbury.
Alfred L. Moore, W. Newbury.
John P. Palmer, Swampscott.
John Price, Manchester.
Chas. W. Shattuck, Lawrence.
John L. Shorey, Lynn.
Richard Webster, Haverhill.
Horace C. Ware, Salem.
Geo. M. Wonson, Gloucester.
Isaac M. Woodbury, Topsfield.

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NEW MEMBERS—1882.

George F. Averill, Topsfield.
John Barker, No. Andover.
Albert S. Brown, Ipswich.
Charles R. Drew, Groveland.
B. F. Eaton, Haverhill.
E. A. Emerson, Haverhill.
C. H. Fellows, Haverhill.
J. R. Gordon, West Newbury.
Samuel B. George, Groveland.
Francis Gulliver, Andover.
Patrick Goodwin, Lawrence.
Francis J. Goodwin, Lawrence.
Edwin V. Gage, Bradford.
T. P. Hale, Rowley.
Thos. P. Harriman, Groveland.
A. C. Hill, Merrimac.
Albert C. Heath, Haverhill.
Hanscom, Haverhill.
Joseph Ilsley, Newbury.
Hannah E. Kittredge, N. Andover.
M. O. Luce, Haverhill.
Henry Merrill, West Newbury.
Philip H. Martin, Groveland.
James H. Nason, Boxford.
H. F. Nason, West Newbury.
A. D. Ordway, Newburyport.
Baxter P. Pike, Topsfield.
Geo. G. Pierce, W. Newbury.
Frank Perkins, Newbury.
F. W. Poore, Haverhill.
Loring B. Rea, No. Andover.
C. N. Rhodes, Haverhill.
Henry H. Spofford, Groveland.
Edward M. Stacey, Groveland.
Elmer P. Sargent, Merrimac.
M. Perry Sargent, Merrimac.
Mrs. S. A. Stewart, Middleton.
W. W. Sprague, Haverhill.
Frank H. Towne, Topsfield.
George H. Tenney, Groveland.
J. Harrison Tenney, Rowley.

LIST OF PREMIUMS.

FAT CATTLE.

C. W. Adams, Newbury, 1st premium,	12 00
Joseph Newell, West Newbury, 2d premium,	10 00
James H. Reynolds, No. Andover, 3d premium,	6 00

BULLS.

Wm. A. Russell, Lawrence, Holstein with stock, 1st premium,	15 00
C. S. Bradley, West Newbury, Short Horn, 1st premium,	10 00
Dudley A. Massey, Danvers, Ayrshire, 1st premium,	10 00
Thomas Sanders, Haverhill, Jersey, 1st premium,	10 00
Henry C. Nevins, Methuen, Devon under two years, 1st premium,	6 00
Wm. A. Russell, Lawrence, Holstein, do., do., do.,	6 00
Thomas Sanders, Haverhill, Jersey, do. do., do.,	6 00
George W. Russell, Lawrence, Jersey, 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein, "Ernest," do. do., do.,	4 00
Thomas Sanders, Haverhill, Jersey, "Black Birch," do. do. do.,	4 00

MILCH COWS.

Wm. A. Russell, Lawrence, special premium for milch cow,	25 00
M. O. Luce, Haverhill, do., 1st premium,	12 00
W. R. Whittier, Haverhill, do., 2d. premium,	6 00
Harry H. Hale, Bradford, Jersey cow, 1st premium,	12 00
Thomas Sanders, Haverhill, Jersey cow, 2d premium,	6 00
C. S. Bradley, West Newbury, Short Horn cow, 1st premium,	12 00
C. S. Bradley, West Newbury, Short Horn cow, 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein cow, 1st premium,	12 00
William A. Russell, Lawrence, 2d premium,	6 00
Nathan Priest, Haverhill, Native, gratuity,	5 00

HERD OF MILCH COWS.

Wm. A. Russell, Lawrence, 1st premium,	18 00
Thomas Sanders, Haverhill, 2d premium,	12 00

HEIFERS—FIRST CLASS.

Wm. A. Russell, Lawrence, Heifers under 4 years, in milk, 1st. premium,	12 00
Wm. A. Russell, Lawrence, do., 2d premium,	6 00

William A. Russell, Lawrence, heifers over 1 year old, not in milk, 1st premium,	6 00
Wm. A. Russell, Lawrence, do., 2d premium,	4 00
Wm. A. Russell, Lawrence, heifer calves, 1st. premium,	5 00
Wm. A. Russell, Lawrence, do., 2d premium,	3 00
C. S. Bradley, West Newbury, heifers over 1 year old, not in milk, Short Horns, 1st premium,	6 00
C. S. Bradley, West Newbury, do., 2d premium,	4 00
C. S. Bradley, West Newbury, calves, 1st premium,	5 00
C. S. Bradley, West Newbury, calves, 2d premium,	3 00
H. C. Nevins, Methuen, heifers in milk, Devon, 1st premium,	12 00
H. C. Nevins, Methuen, do., 2d premium,	6 00
H. C. Nevins, Methuen, under 4 years not in milk, 1st premium,	6 00
H. C. Nevins, Methuen, do., 2d premium,	4 00
Harriet Reynolds, Boxford, Jersey heifer under 4 years, 1st premium,	6 00
Thomas Sanders, Haverhill, do. 3 years old in milk, 2d premium,	6 00
Thomas Sanders, Haverhill, do. over 1 year old not in milk, 2d premium,	4 00
Thomas Sanders, Haverhill, Jersey calf, first premium,	5 00
Thomas Sanders, Haverhill, do., 2d premium,	3 00
J. W. Bailey, Bradford, Jersey heifer 2 years old, not in milk, 1st premium,	6 00

HEIFERS, SECOND CLASS.

Chas. W. Adams, Newbury, yearling heifer, 1st premium,	6 00
S. & N. Longfellow, Groveland, do., 2d premium,	4 00
T. O. Wardwell, North Andover, calves, 1st premium,	5 00
B. H. Farnum, North Andover, calves, 2d premium,	3 00

WORKING OXEN AND STEERS.

Albert Berry, North Andover, working oxen, 1st premium,	12 00
Hannah E. Kittredge, do., do., 2d premium,	10 00
J. L. Farnum, do., do., 3d premium,	8 00
B. H. Farnum, do., working steers, 1st premium,	10 00
Wm. and Alfred Little, Newbury, do., 2d premium,	6 00

TOWN TEAMS.

The North Andover horse team, 12 pairs, 1st premium,	25 00
The North Andover Ox team, 16 pairs, 1st premium,	25 00
The Bradford Ox team, 10 pairs, 2d premium,	15 00

STEERS.

Byron K. Farnum, No. Andover, 3 years old steers, 1st premium,	8 00
Henry Berry, Boxford, do., 2d premium,	6 00
S. & N. Longfellow, Groveland, 2 years old steers, 1st premium,	6 00
J. R. Farnum, No. Andover, do., 2d premium,	5 00
Thomas Sanders, Haverhill, yearling steers, 1st premium,	5 00
Richard Bray, Newbury, do., 2d premium,	4 00

STALLIONS.

Harry H. Hale, Bradford, stallion with stock, special premium,	25 00
Henry C. Nevins, Methuen, do., 2d premium,	8 00
J. R. Prescott, Haverhill, do., 3d premium,	6 00
Henry C. Nevins, Methuen, stallion 3 years old, 1st premium,	8 00
John O. Goodwin, North Andover, do., 2d premium,	5 00

BROOD MARES.

Thomas Sanders, Haverhill, brood mare, 1st premium,	12 00
Rufus Goodwin, Haverhill, do., 2d premium,	8 00
J. J. Downing, North Andover, do., 3d premium,	6 00

FAMILY HORSES.

O. S. Butler, Georgetown, family horse, 1st premium,	12 00
Peter Holt, Jr., North Andover, do., 2d premium,	8 00
Alfred C. Hill, Saugus, do., 3d premium,	6 00

FARM AND DRAFT HORSES.

W. H. Butters, Methuen, 1st premium,	12 00
Jeremiah Cashman, Newburyport, 2d premium,	8 00
R. S. Bray, Newbury, 3d premium,	6 00
Jonas Rollins, Danvers, 4th premium,	4 00
J. A. Ilsley, Georgetown, gratuity,	3 00
Peter Holt, Jr., North Andover, gratuity,	2 00

PAIRS OF DRAFT HORSES.

Edward P. Perley, Danvers, 1st premium,	12 00
Thomas Sanders, Haverhill, 2d premium,	8 00
A. P. Fuller, North Andover, 3d premium,	4 00

COLTS—FIRST CLASS.

B. G. Gutterson, Methuen, 4 years old colt, 1st premium,	10 00
Joseph Newell, West Newbury, 4 years old colt, 2d premium,	6 00
Albert C. Heath, Haverhill, 3 years old colt, 1st premium,	8 00
J. G. Hunkins, Haverhill, do., 2d premium,	5 00

COLTS—SECOND CLASS.

H. M. Coburn, Methuen, 2 years old colt, 1st premium,	6 00
T. S. Ruddock, West Newbury, do., 2d premium,	4 00
Peter Holt, Jr., North Andover, yearling colt, 1st premium,	6 00
M. O. Luce, Haverhill, do., 2d premium,	4 00

SWINE—FIRST CLASS.

Thomas Sanders, Haverhill, large Yorkshire boar, 1st premium,	10 00
George H. Plummer, Newbury, do., 2d premium,	6 00
Jeremiah Cashman, Newburyport, breeding sow, 1st premium,	10 00
Jacob L. Farnham, North Andover, do., 2d premium,	6 00
Danvers Hospital Farm, weaned pigs, 1st premium,	10 00
Thomas Sanders, Haverhill, do., 2d premium,	6 00

SWINE—SECOND CLASS.

Alfred M. Trask, Danvers, small Yorkshire boar, 1st premium,	10 00
C. H. Poor, Bradford, do., 2d premium,	6 00
Alfred M. Trask, Danvers, do., breeding sow, 1st premium	10 00
T. O. Wardwell, No. Andover, do., do., 2d premium,	6 00
Alfred M. Trask, Danvers, do., four weaned pigs, 1st premium,	10 00
Alfred M. Trask, Danvers, five, do. do., 2d premium,	6 00

SHEEP.

Thomas Sanders, Haverhill, flock thoroughbred Atwood Merinos, 1st premium,	10 00
Joseph Newell, West Newbury, six grade lambs, 1st premium,	4 00
Joseph Newell, West Newbury, buck, first premium,	8 00

PLOUGHING—DOUBLE OX TEAMS.

Bray & Little, Newbury, 1st premium,	12 00
B. H. Farnham, No. Andover, 2d premium,	10 00

PLOUGHING—SINGLE OX TEAMS.

Charles J. Peabody, Topsfield, 2d premium,	7 00

PLOUGHING—HORSES, COMMON PLOUGH.

R. S. Bray, Newbury, 1st premium,	12 00
T. O. Wardwell, North Andover, 2d premium,	10 00
Paul T. Winkley, Jr., Newburyport, 3d premium,	8 00
Patrick Kiely, Hamilton, 4th premium,	6 00
Charles N. Maguire, and M. H. Poor, West Newbury, 5th premium,	4 00

PLOUCHING WITH FOUR HORSES.

H. F. Nason, West Newbury, landside Oliver Chilled Plow, 1st premium,	10 00
W. A. Russell, Lawrence, Swivel Matchless No. 8, 1st premium,	10 00

SULKY PLOUGH.

Frank Perkins, Newbury, Cassady Plough, 1st premium,	10 00
George G. Creamer, Hamilton, Wiard Plough, gratuity,	5 00

SWIVEL PLOUGH.

Town of No. Andover, and B. K. Farnham, ox team, 1st prem.,	12 00
Charles Haseltine, Bradford, do., do., 2d premium,	10 00
Edward P. Perley, Danvers, horse team, 1st premium,	10 00
Jonas Rollins, Danvers, do., do., 2d premium,	6 00

GRAIN CROPS.

Danvers Lunatic Hospital, Rye Crop, 1st premium,	10 00
W. W. Perkins, Newbury, Barley, first premium,	10 00
W. W. Perkins, Newbury, Grass crop, 1st premium,	10 00
Nathaniel Little, Jr., Newbury, Wheat crop, 1st premium,	10 00

ROOT CROPS.

J. J. H. Gregory, Marblehead, onion crop, 1st premium,	10 00
J. W. Blodgett, Saugus, potato crop, 1st premium,	10 00
J. W. Blodgett, Saugus, squash crop, 1st premium,	10 00
Aaron Knowlton, Essex, Mangold crop, first premium,	10 00
O. S. Butler, Georgetown, Report on Silos and Ensilage, 1st premium,	10 00
Asa T. Newhall, Lynn, Report on Root crops, 2d premium,	8 00
David W. Low, Gloucester, Report on Vegetables, 3d premium,	6 00
Awarded by Committee on Poultry,	47 00
" " " " Agricultural Implements,	28 00
" " " " Carriages,	35 00
" " " " Dairy,	53 00
" " " " Bread, Honey, etc.,	24 00
" " " " Fruit,	256 50
" " " " Flowers,	60 50
" " " " Vegetables,	170 50
" " " " Counterpanes, &c.,	36 00
" " " " Articles manufact'd from Leather,	29 00
" " " " Manufactures and merchandise,	25 00
" " " " Fancy Work, &c.,	48 25
" " " " Children's Work,	11 25
	1912 00

RECAPITULATION.

FARMS.

Amount awarded to Ploughing,		$142 00

FARM STOCK.

Amount awarded to Fat Cattle,	28 00	
" " " Bulls,	77 00	
" " " Milch Cows,	102 00	
" " " Herd of Milch Cows,	30 00	
" " " Heifers,	130 00	
" " " Working Oxen,	46 00	
" " " Town Teams,	65 00	
" " " Steers,	34 00	
" " " Horses,	163 00	
" " " Colts,	49 00	
" " " Swine,	96 00	
" " " Sheep,	22 00	
" " " Poultry,	47 00	
		$1031 00

FARM PRODUCTS.

Amount awarded to Grain Crops,	40 00	
" " " Root Crops,	40 00	
" " " Dairy,	53 00	
" " " Bread, Honey, &c.,	24 00	
" " " Fruits,	256 50	
" " " Flowers,	60 50	
" " " Vegetables,	170 50	
		$644 50
All other objects,		236 50
Total,		1912 00

CONSTITUTION

OF THE

ESSEX AGRICULTURAL SOCIETY.

ARTICLE 1. There shall be a President, four Vice-Presidents, a Secretary and a Treasurer, who shall be Trustees, *ex officio*. The President, Vice Presidents and Secretary shall be elected at the annual meeting by ballot and the Treasurer by the Trustees, annually, at their meeting in November. In addition to these, one Trustee shall be elected annually for each town in the County, and the Trustee for each town shall be elected by the members of the Society in said town, at a meeting called for that purpose, in accordance with notice issued by the Secretary, and shall continue in office until another is elected in his stead; and such election shall be final, and shall constitute the Trustee so elected a member of the Board of Trustees of the Society; and the result of the election in each town shall be communicated as early as possible to the Secretary.

ART. 2. There shall be an Annual Meeting of the Society, at such time as the Trustees shall determine; at which all officers shall be elected. Twenty members at least shall be necessary to constitute a quorum for the transaction of business.

ART. 3. If at any meeting of the Society, or the Trustees, the President and Vice Presidents shall be absent, the members present may appoint one from among them to preside at such meeting.

Art. 4. The President, or, in case of his absence, either of the Vice Presidents, with the advice of the Trustees, may call a special meeting of the Society; or whenever a written application, with the reasons assigned therefor, shall be made by any twelve members of the Society, to the President and Trustees, they shall call such meeting.

Art. 5. The meetings of the Trustees shall be held at such time and place as they shall from time to time agree upon; seven of whom with the presiding officer shall make a quorum.

Art. 6. The Trustees shall regulate all the concerns of the Society, during the intervals of its meetings; propose such objects of improvement to the attention of the public, publish such communications, and offer premiums in such form and value as they think proper, (provided the premiums offered do not exceed the funds of the Society); and shall lay before the Society, at each of its meetings, a statement of their proceedings and of the communications made to them.

Art. 7. The Secretary shall take minutes of all the votes and proceedings of the Society and of the Trustees, and enter them in separate books; and shall record all such communications as the Trustees shall direct He shall write and answer all letters relating to the business of the Society.

Art. 8. The Treasurer shall receive all moneys due or payable to the Society, and all donations that may be made to it; for which he shall give duplicate receipts, one of which shall be lodged with the Secretary, who shall make a fair record thereof. The Treasurer shall from time to time pay out such moneys as he shall have orders for from the Trustees; and shall annually, and whenever thereto required, render a fair account of all his receipts and payments to the Society or a committee thereof. He shall give bonds for the faithful discharge of his duty, in such sum as the Trustees shall direct, and with such sureties.

ART. 9. A committee shall be appointed annually by the Trustees, to audit the Treasurer's accounts, who shall report to the Society; and the same being accepted shall be entered by the Secretary in his books.

ART. 10. In case of the death, resignation, incapacity, or removal out of the County, of the Secretary or of the Treasurer, the Trustees shall take charge of the official books, papers, and other effects, belonging to the office that may be vacated, and give receipts for the same; which books, papers, etc., they may deliver to some person whom they may appoint to fill the office until the next meeting of the Society, at which time there shall be a new choice.

ART. 11. Any citizen of the County may become a member of the Society, by paying the sum of THREE DOLLARS to increase the permanent fund of the institution.

ART. 12. A committee shall be raised, from time to time, to solicit and receive subscriptions for raising a fund for encouraging the noblest of pursuits, the Agriculture of our country; the same to be sacredly appropriated to that purpose.

ART. 13. All ordained ministers of the Gospel who reside within the County, shall be admitted honorary members of the Society.

ART. 14. In addition to the usual number of Trustees annually elected, the past Presidents of the Society shall be honorary members of the Board of Trustees.

ART. 15. The foregoing constitution may be amended by a proposition of the amendment in writing by a member at a regular meeting; the same to lie over for action at the next annual meeting of the Society.

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TRANSACTIONS

OF THE

ESSEX AGRICULTURAL SOCIETY,

IN MASSACHUSETTS,

FOR THE YEAR 1883;

WITH THE

SIXTY-FIRST ANNUAL ADDRESS,

BY

HON. CHARLES P. THOMPSON,

OF GLOUCESTER.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.:
OBSERVER STEAM PRINTING ESTABLISHMENT.
1883.

ADDRESS

OF

HON. CHAS. P. THOMPSON,

OF GLOUCESTER,

DELIVERED BEFORE THE

ESSEX AGRICULTURAL SOCIETY,

AT SALEM, MASS.,

WEDNESDAY, SEPTEMBER 26, 1883.

ADDRESS.

Mr. President and Members of the Essex Agricultural Society:

In the divine economy, it is provided that diversity and variety in nature shall produce harmony; and in human affairs, it is provided that the numerous occupations of men shall each hold an important and contributory relation to the others, and that each shall be essential to the whole. St. Paul recognized this principal in the Church, when he asked, "Are all apostles? are all prophets? are all teachers? are all workers of miracles? have all the gift of healing? do all speak with tongues? do all interpret?" And to illustrate the principle, he called the attention of his brethren to the fact that the natural body is not one member but many, and then put the questions full of instructive suggestions,—"If they were all one member, where were the body? If the whole body were an eye, where would be the hearing?" And then declared "the eye cannot say unto the hand I have no need of thee, nor again the head to the foot, I have no need of you." If all were engaged in the same occupation, where would be the combined symmetrical whole? Although we meet as an agricultural society and our minds are naturally led to the consideration of topics which illustrate the importance of agriculture, we have no purpose to disparage other vocations, but accord to them their true position in the great system of agencies which contribute to the maintenance of man, and are essential to his

true happiness and highest development. Still, without fear of contradiction, I may say that agriculture occupies the first and most important position among the industries of the people, whether we consider it with reference to the number and character of those engaged in it, the value of its products, or the influence it has upon those engaged in it, or upon the country at large. The number of persons engaged in agricultural pursuits are nearly, as appears by the last census, equal to that of those engaged in all other occupations; those engaged in agriculture being 7,075,983, while those engaged in all the occupations are only 17,392,099, and nearly double the number of those engaged in mechanical occupations and mining industries, those in the census being classed together, and amount to only 3,837,112. It may not be unprofitable briefly to enumerate some of its productions and their values, to aid us in comprehending its importance. The hay crop is one of the most valuable. There were in the United States in 1881, 30,888,700 acres of grass land, yielding 35,135,064 tons of hay, of the value of $415,131,366, and when we add to this the pasturage, which in real value was greater than the grass which was made into hay, we can have some adequate idea of the value of the products of our mowing and grazing lands.

64,262,025 acres of corn yielded 1,194,916,000 bushels, of the value of $759,482,170.

There were 37,709,020 acres of wheat, producing 380,280,090 bushels, of the value of $453,790,427.

1,789,100 acres were devoted to rye, giving 20,704,950 bushels, of the value of $19,327,415.

And 416,481,000 bushels of oats were produced from 16,831,600 acres, of the value of $193,198,970.

1,967,510 acres of barley produced 41,161,330 bushels, of the value of $33,862,513.

828,815 acres of buckwheat produced 9,486,200 bushels, of the value of $8,205,705.

2,041,670 acres of potatoes produced 109,145,494 bushels, of the value of $99,291,341.

646,239 acres of tobacco produced 449,880,014 pounds, of the value of $43,372,336.

In 1880, 15,475,300 acres of cotton produced 6,343,269 bales of 450 pounds each, of the value of $280,266,242.

Add to these the large variety of other products of great value, including sugar, rice, hemp, and vegetables and fruits of various kinds, the amount and value of which I will not attempt to compute, and you can form some idea of the extent and value of our agricultural products, and to all these may still properly be added the horses, oxen, milch cows, swine, and flocks and herds. It is, in fact, the basis of very many of the other occupations, the oldest, as well as most useful of all, and the one man is the best adapted to pursue. It is the Lord's appointed work. When he had made the earth, before He created a helpmate for man, He planted a garden eastward in Eden, placed Adam in it to dress it and keep it. Thus in divine order putting agriculture before marriage. But we are sometimes told that farming will not pay, that this fair earth is not worth cultivating, or that portion of it in which our lot is cast, which is the best portion of the earth, and can be cultivated with most profitable results.

A good farm in Essex County, and there are large numbers of them, will yield to one who brings industry and skill to his aid, profits equal to that of any farm of equal acreage in the world. This fact you have demonstrated beyond a peradventure. The farms of Massachusetts would doubtless bring to their owners as large surplus profits as the farms in the west,

were the owners here to live as inexpensively as the owners do there. But you do not expect me to attempt to instruct you in the art and science of farming; how best to select the soil for the desired crop, how best to prepare the soil, how best to sow, to cultivate, to reap, or how best to dispose of the crops produced. Your good sense would have led you to select a very different individual for such a duty. You meet as citizens as well as farmers, and the commanding position you hold makes it appropriate, on an occasion like this, for me to speak of the farmer as a citizen, of the relation he holds to the State and Society, what is expected of him, and how he may be best prepared for his high duties.

THE FARMER'S POSITION.

The farmer not only holds a leading position in the State, but that position is freely conceded to him. The judgment of the farmer is sought for, his opinions carefully weighed, and justly regarded as of great value. When the reporter gives his interview with the farmer, all listen with attention, for he is in a position where it is for his interest to have the wisest and best policy adopted for the whole people. He wants no artificial aid. He does not look to the State for bounties; the tariff is not needed for his protection. He needs no special legislation to give him success. He needs the world for his market, and the most liberal reciprocity in the exchange of his products. He looks for the protection and the blessing of heaven, for seed time and harvest, for the early and the latter rain, for the glorious sunshine to bring forth and ripen his crops. His is the natural and normal condition, and on the wisdom and soundness of his judgment we may safely rely. Upon the farmer more than upon any other, depends the

physical, mental, moral, and religious condition of the State. As they will so must it be. If they are right, exert aright their power, it will be well for the State, well for humanity; if they fail, are found wanting, how sad indeed must be the result. To enable the farmer rightly to discharge the high duties devolving upon him, he must be intelligent, educated. Our farmers are indeed the best informed, the best educated of the people, and to them we look with confidence for the support of our educational system. Let no farmer say that too much money is expended for the education of the people. Do not say because your money is not always expended most judiciously and economically in this direction, therefore it shall not be expended at all; remove the evil, do not destroy the good. Will you say, because the lands are not always cultivated according to the rules of good husbandry, therefore we will not cultivate them at all. Is it not the part of wisdom when the defect is discovered to remove that defect rather than destroy that which is of great value? The cultivation of the mind and heart ought to be regarded by him as important as the cultivation of his lands.

This cultivation will certainly bring as rich and valuable a harvest. By the improvement of the mind he lays up his treasures, which are as treasures in Heaven, "where neither moth nor rust doth corrupt, and where thieves do not break through nor steal." If the modes of education and the courses of study are defective, let them be improved, as they doubtless can be. It is your duty to see that this is done, and that the money is expended in the most profitable manner, but do not, I beseech you, become weary in well doing in this direction. When the farmer can, through the products of the farm, improve his mind and the minds of his

children, is it not better to use a portion of the crops for this purpose, rather than to consume the whole upon the body?

When you have this opportunity to exchange some of the products of the soil for mental food, exchange liberally. The farmer may, yes he does, need a different course of study from that required for the professional man, the mechanic, the engineer, the architect, the painter, or the sculptor. Massachusetts has recognized this fact and has, to her credit, her Agricultural College, which is doing great work for the farmer, and will continue to advance his interests, increase his products and lessen his labors.

Thomas Jefferson, the firm friend of agriculture, as well as the philosopher and statesman, appreciated the necessity of a more liberal education for the agriculturist. He said of agriculture, "it is a science of the very first order. It counts among its handmaids the most respectable sciences, such as chemistry, natural philosophy, mechanics, mathematics generally, natural history, botany. In every college and university, a professorship of agriculture, and the class of its students might be honored as the first young men closing their academical education with this as the crown of all other sciences, fascinated with its solid charms, and at a time when they are to choose an occupation, instead of crowding the other classes, would return to the farms of their fathers, their own, or those of others, and replenish and invigorate a calling now languishing under contempt and apprehension.

The charitable schools, instead of storing their pupils with a lore which the present state of society does not call for, converted into schools of agriculture, might restore them to that branch, qualified to enrich and honor themselves, and to increase the productions of the nation instead of consuming them."

These are words of wisdom and we shall do well to carefully regard them. Jefferson regarded, and justly too, an intelligent and educated yeomary as the conservators of the State. So may we ever regard them, so may they ever be.

The farmer should be, as he has every reason to be, as he is, a firm friend and supporter of Christianity. He sees everywhere in creation the work of the Creator. He recognizes the great truth that "all things were made by Him, and without Him was not anything made that was made." He looks to his Heavenly Father for His promised blessing with faith and submission, assured that "while the earth remaineth, seed time and harvest, and cold and heat, and summer and winter, day and night, shall not cease." He does not cavil at what he cannot understand. When he cannot comprehend how the minutest particle of matter exists, he does not undertake to explain the existence of myriads of worlds. He bows with reverence to the teachings of revelation and reads with appreciation, "who hath known the mind of the Lord? or who hath been his counsellor?" "Canst thou by searching find out God? Canst thou find out the Almighty unto perfection? As far as the Heavens are higher than the earth, so are my ways higher than your ways and my thoughts higher than your thoughts." He sees higher proof of the divine origin of the Bible in its beneficent doctrines than even in the miracles it records, as goodness is more divine than power. The farmer regards education and christianity as the strong pillars of society and of the State. The farmer, as I have said, wants no artificial aid, and he needs no special legislation for his success. He desires only an equality of all men under the law, and should by every means in his power oppose and prevent special or class legislation.

EQUALITY OF RIGHTS.

It has been truly said, "Equality of rights is the first of rights." There is no other basis upon which the republic can stand; with this principle for its foundation, sacredly regarded, it may abide forever. A departure from this principle has caused all the civil wars of the world, and often brought ruler and ruled to a common ruin. That constitution which does not guarantee it is founded upon the sand; legislation upon any other basis must be tyrannical; whether special privileges are given to an individual or to a class, the tyranny is the same. When you grant special privileges to an individual or to a class, you take from the people as much as you grant to that individual or that class. The grant of a special privilege to one is, to the extent of that grant, a curtailment of the rights of all others. We have on all sides illustrations of this fact in the great advantages that corporations have over private individuals. These corporations, under the control of those who have made and are making fortunes by reason of these special powers, are like the gambler's bank, sure to win all that is put at risk by the individual not initiated in their mysteries. Neither the faro bank nor the roulette table has its chances arranged more certain in its favor, or takes a greater advantage of its customers than many of these corporations take of those under their control. Let corporations continue to increase and carry on business, with such advantages as the law gives them, and they will destroy all individual enterprise. And still parties, not satisfied with the advantages given corporations over the individual in ordinary business affairs, are constantly organizing corporations with no other object than to rob the unsuspecting and confiding public.

The sale of the stock of such corporations is gambling and

swindling of the most wicked character. The sale of shares in corporations which have some real foundation, some capital and value, has been turned to a large degree into nothing but gambling. And the sales are often conducted upon a basis that would make a gambler, by the ordinary games of chance, blush with shame—too unfair and cowardly for a highwayman to sanction. Those managing these stock gambling enterprises, these sales of stock, fix the price at which they buy and at which they sell. By their wicked schemes and combinations, they rob confiding customers, without the least apparent remorse; yea, even attempt to justify their action, and I regret to say that too many, instead of stamping it with that disapprobation it deserves, call it shrewd, and even approve of it. Such persons, had they looked into the lions' den, would have sympathized with the lions, not with Daniel.

Through these corporate privileges and this manipulation of stocks,—this robbery of the people,—single individuals have become possessed of property equal to the assessed value of the real and personal property of entire States of this Union. The whole assessed value of the State of Maine, real and personal property, by the census of 1880, was less than two hundred and thirty-six millions of dollars; and the minds of all of you can recall the name of a single individual who is understood, and without doubt correctly, too, to be worth quite that amount. The taxable valuation of New Hampshire was less than one hundred and sixty-five millions of dollars. The taxable valuation of the three States, Nevada, Colorado, and Nebraska, amounted to less than one hundred and ninety-five millions of dollars, and of the three States, Florida, Delaware, and West Virginia, to less than two hundred and thirty-one millions of dollars. The taxable valuation of the State of

Florida was less than thirty millions of dollars,—a sum scarcely equal to what a stock gambler has made in a single year.

There are more than thirteen States of this Union, neither of whose taxable valuation is more than equal to the property of a single individual in the Union. I give these figures to remind you to what an alarming extent the property of this country, through the modes of doing business, is being absorbed by a few individuals and by methods that the common judgment of mankind must condemn.

When single individuals own whole States, what is to become of the masses of the people? But I may be told that no single individual owns a whole State in fact, although he may own property of equal value, and its influence is not therefore so noticeable, or so objectionable, as it would be if all the property in a State were owned by an individual. But I submit that such a position is not tenable; such a fortune is more objectionable than if it embraced the whole of a State, for now it will control by its influence enterprises involving property to many times its amount, and when we consider that there are doubtless seven men in the Union who are worth as much as the assessed value of seven States of the Union, who can calculate the result of such an amount of capital in the hands of so few individuals, who instinctively co-operate to subordinate vast interests to their own selfish ends? Already, most of the manufacturing is done by corporations. In many branches of it individual enterprise is almost unknown; the result is that fewer and fewer men control the manufacturing institutions of the country; combination and consolidation are the order of the day, the smaller corporations are being absorbed by the larger ones, and the larger the corporation the more uncom-

promising it is, and the less does it regard the rights or interests of the laborer or the public.

It is often and truly said that capital and labor ought to move on in harmonious relations with each other, and that their interests ought to be identical. This is true, but the fact is too often wholly disregarded in practice. Capital will not regard the interest of labor; it wants and strives for as full and absolute control over the laborer as if he were a slave rather than a free man. It is only a question of power; right has little to do with its solution. Capital is every day acquiring greater power, and individual power and independence are growing rapidly less. Capital already, through the labor performing machinery employed, actually owns most of the labor in our factories. The amount of labor performed by individuals, in many kinds of manufactures, is small compared with that performed by this machinery. And it is manifestly the purpose of capital, controlled by corporations, to make the laborer a part of the machinery; to bring him under its control as absolutely as the inanimate machinery which he assists in operating. And legislation, instead of being employed to prevent this condition of affairs, is invoked most vigorously to its aid, and individuals are daily made less and less able to resist the encroachments of this arbitrary power. These corporations have been created under the plea that the public convenience requires them; upon no other plea could there be any justification for them. There can be no excuse for chartering a corporation but such as will justify the exercise of the right of eminent domain. It is not enough that the public convenience requires it; public necessity must demand it before a corporation can rightfully be created. If these corporations rest upon this foundation, it is clear that the State has a

right to annul the charters granted by it, and to regulate the exercise of their powers, unless she has parted with that right by the terms of the acts creating them. Massachusetts has not done this but in a very few intances indeed, therefore nearly all the corporations in the State exist only at the will of the law-making power.

The power of the State, which has been invoked to create this abnormal and ruinous condition of affairs of which I have spoken, ought to be successfully invoked to stay its progress and remedy the evil already done.

And upon the farmers of the country must we depend for this needed legislation. They experience all of the evils of this class legislation, without deriving any benefit from it.

THE DIGNITY OF LABOR.

It is of the first importance to the farmer to have such a policy pursued as will make labor most honorable and profitable. The farmer is an independent laborer. May he always remain such; no combination of capital dictates what pay he shall receive or the hours he shall labor. He is a freeman indeed, and desires that man as man shall be recognized as of more value than capital. If there is to be any dictation, let it be that of labor to capital, rather than that of capital to labor. When capital can dictate its terms to labor it owns it, and man becomes a slave of capital, which will not, unless compelled, compensate him for his labor beyond the smallest sum upon which life can be sustained and strength obtained sufficient for labor. Capital is vigilant, watchful, aggressive and arbitrary, and will bring the laborer into the most abject slavery unless prevented by efficient measures. Although the farmer has not yet directly felt the blasting influence upon his rights and liberties of the centralization of wealth, still, it will

not be long before it will reach him and his farm will fall into the hands of corporations or capitalists, and, instead of an honest, intelligent and independent yeomanry, owning the lands they till, there will be nothing but tenants as impoverished and miserable as the tenants of the lands of Ireland, who so justly have the sympathy of our people.

CHINESE IMMIGRATION.

The manufacturer cries for a tariff to protect his manufactures, but he does not want a tariff to protect labor. With free trade in labor, of what avail can a tariff on the products of labor be to the laborer? What the manufacturer is striving for is to get his labor as cheap as possible, and to sell his goods at the highest possible price. He is not willing that labor shall share in the profits of his business. The capitalists will combine and fix the price of labor, adopt joint rules for its employment, and dictate who shall and who shall not be employed, what organizations the laborer may and what he shall not belong to; but let labor attempt to combine and exercise any similar powers and the militia are ordered to be in readiness to put down what capital deems a menace to its arbitrary dictation. Let laborers begin to claim their rights and they are reminded that in Asia or some other distant land there are those who are more poorly paid than laborers here, and that unless they quietly and submissively yield to the demands of capital, capital will charter the ship, or the railroad car, and bring laborers in abundance who will fill their places and submit without daring even to complain at its cruelty and oppression. Labor in our factories is being rapidly changed by the determination of capital to dictate to and control labor. Corporations so conducting business ought to be dissolved.

Capitalists doing it ought to be prohibited by law from such abuse of power. Factories run upon such a basis are a curse rather than a blessing. Any business that cannot live without degrading humanity ought to die. The first requisite in any department of business should be to have the rights of labor engaged in it sacredly regarded, and the dignity of the individual maintained. It is now quite popular in certain directions, where the proplem of labor in this country is discussed, for those who do all in their power to degrade labor to affect great sympathy for the Chinaman, to insist upon his great utility, if not his superiority as a laborer. Eminent and popular clergymen desire to be regarded as the special advocates of the cause of the poor and down-trodden, in defending Chinese immigration, wholly losing sight of the fact that while doing no kindness to the Chinaman, they are doing a great wrong to the Christian laborer, by favoring his being brought into competition with servile labor. No true friend of humanity, no follower of the Saviour of Mankind, will do aught against the rights of the Chinaman; he certainly will not, if actuated by a Christian spirit, do aught to injure any human being in all the universe. If there is a Chinaman in the Celestial Kingdom who has in his soul hatred of oppression, a longing after liberty, the desire to enjoy the benefits of our Christian civilization, and to abjure allegiance to his government and to become loyal to ours and to our institutions, I bid him God-speed to our shores. I welcome him to our Christian civilization, to a participation in the glorious results of free institutions. But when capital, accumulated by not giving a just and fair compensation for labor performed, brings barbarians to our shores, who come unwillingly, come under servile contracts, come not to permantly remain, come not with

any love or respect for our holy religion, or our free institutions, but with a supreme contempt for both, and with such a hatred for our soil that they will not consent to mingle their dust with it, and will remain as isolated as they can, and avoid as much as possible all contact with our people, our manners and customs, our institutions, and return home with the largest possible amount of their earnings, to spend them in the enjoyment of their own country and religion, I can but regard it as a cruel wrong to the State. I have no sympathy with the schemes for Chinese immigration, as they are developed here, and most assuredly no one ought to have any sympathy with the capitalist who brings him here as a menace to free labor, to degrade it, to reduce its price, and to make it more dependent upon capital. It is not love for the Chinaman that actuates those who bring him here, but a hatred of honest, independent labor. If capital cannot literally own the laborer it wants to make him as servile as he would be were he the property of capital. This bringing of servile laborers, under such contracts and conditions as the Chinamen are brought, is but capital attempting to force Christian laborers down to a level with barbarian serfs. It is not to make Christians of the heathen, but to take away from Christians that independence and manliness which the Saviour taught to be their birthright, and is in direct disobedience to the divine command, Love thy neighbor as thyself. If the motive of Christian charity actuates those who claim to favor the bringing of an inferior race among us as a humane measure, why are such objections made when a few paupers land upon our shores? Do not these paupers afford greater opportunity to their philanthrophy, for the exercise of their Christian charity, than Chinese laborers? There cannot be any sincerity in this talk about love of human-

ity on the part of those who favor the importation of cheap labor, knowing as they must, what effect it will have upon the honest and faithful laborers of the country. The whole object of those favoring this immigration is to make money, to get labor performed at a less price, to show what must be expected if any objections are made to the ever increasing demands of avarice. This method of oppression is the most cruel of all the methods used by capital to oppress labor, and deserves to receive the disapprobation of every friend of our civilization, every friend of humanity. There ought not to be any surprise at the abhorrence that is felt by honest Christian labor when capital makes it feel the degrading and oppressive force of this unnatural and cruel competition, when heathen labor is used as a scourge to whip christians into humble submission to soulless corporations, and soulless capital.

THE PUBLIC LANDS.

The policy of the Federal government with reference to the public lands must be changed at once. If this is not done the worst of evils will be upon us, namely, the ownership of these lands by a few corporations and capitalists. Already individuals are acquiring territory, nearly, if not quite, as large as some of the States of this Union, and foreign capital, charmed with this splendid opportunity for profitable investment, and for power, is buying up these lands, to hold for speculative purposes, to the oppression of the actual settler. The government ought not to sell land to any but actual settlers, and then only in quantities not exceeding the limits of a reasonable farm for a householder. No corporation ought to be allowed to purchase, or otherwise to acquire lands, except for its actual needs in the conducting of its business,

no part of which shall be speculation in real estate, holding of it for rents, or the cultivation of it. The government has given, within some thirty years, to railroad corporations alone, more than two hundred millions of acres of land, territory nearly equal to that of the original thirteen States, and a large portion of which is now held for speculative purposes. The government ought at once to regulate the terms upon which that land shall be held and shall be sold. It ought to fix a reasonable price at which the actual settler can obtain it, and prohibit its sale in large quantities to individuals or corporations. It is doubtless the conviction that some measures of this kind will be adopted when the people awake to the true condition of things, and that possibly the judiciary may be a barrier to their application, that makes corporations and capitalists so watchful of the Federal judiciary and the appointment of its judges. There will certainly soon be an end to free lands if the present policy of the government is pursued. And when that point is reached, the actual settler will be compelled to pay ten-fold the present price of the public lands. Individual foreign capitalists can now readily purchase public lands to an extent equal to that of Ireland, namely, 32,531 square miles, or 20,169,220 acres, which, at government prices, can be purchased for a sum certainly within his means, and he may establish his tenant system, and exercise an authority over his tenants greater than that exercised by the landlords of the Irish soil. We can, many of us, remember what public disturbance was created in a neighboring State by reason of the owners of a considerable number of farms being other than the occupants thereof; how it created and gave names to political parties, and determined to a large extent the political character of the State. The purchase of our soil, by foreign-

ers, for purposes other than of actual personal occupation ought not to be tolerated. A large part of the public domain, not yet put into the market, is unfit for agricultural purposes.

When the public lands suitable for cultivation are held by corporations and capitalists, they will not sell them without prices which it will be impossible for the people to pay, and then will begin a system of colonization where the occupant will not be the owner, cannot be the owner of the land he tills, but must hold as a tenant upon the most severe terms the landlord can impose and still have his lands occupied. And servile labor will be introduced to cultivate the lands, and the occupants will become the slaves of the owners. This picture is not overdrawn. Capital is exercised now to find avenues for either safe or profitable investment. Twenty-five years ago the great want of the country was capital to develop its resources, now the want is opportunity for investing capital—opportunities to employ it in profitable enterprises. Railroads are constructed beyond the present wants of the country, factories beyond the needs of the people or the demands of any offered market, and the most inviting avenue left open for profitable or safe investment is the public lands. And as I have already said, capital is seeking these with zeal and will soon absorb them all. When the public lands are thus disposed of it will buy up the farms occupied and tilled by the owners thereof, and the independent farmers tilling their own soil will be growing rapidly less and less. We must check the progress of this destructive order of things by wise and efficient measures, if we will have our liberties secure. This certainly is a subject fit to engross the attention of the whole people, and upon its disposition will, to a very large extent, depend the destiny of the Republic.

Let us see to it that God's earth, given to man as his heritage, is not so managed as to make the many mere slaves of the few, so controlled as to be made the ready, efficient means of torture and oppression, instead of what it ought to be, the richest of blessings.

THE DESCENT OF PROPERTY.

Jefferson in early life was convinced, and rightfully too, that the tenure, by which property is held and the laws regulating its transfer, are of first importance to the State. He saw that measures should be adopted for the more equal distribution of property, to facilitate its transfer, and to make a liberal distribution of it among the people certain and inevitable. Although of noble birth, heir to a large estate, and occupying a high social position, with every inducement to espouse the cause of the rich and privileged, he took sides from the first with the people and devoted himself with all his wonderful powers to the repeal of the laws of entail, upon the ground that the repeal would prevent the accumulation of wealth in select families, and to the abolition of primogeniture, which made one member of a family rich and all the rest poor. The application of our laws in relation to the tenure and transmission of property to the present condition of affairs, results in larger and more unhealthy accumulation of property, and to the making of the few rich and the many poor, than did the laws in force in Virginia at the time Jefferson contended so vigorously and successfully for their reform. And there is now, as then, needed a radical change in these laws.

The present laws upon this subject greatly obstruct the free distribution of wealth, and do great injustice to the people. The reforms inaugurated by Jefferson, although in his time

well adapted to accomplish the desired end, are wholly inadequate to meet the wants of the present state of affairs, which favor accumulations in families more than the laws of entail and primogeniture as then in force. The State now regulates the tenure and transmission of property, and by so doing acknowledges both its right and duty to regulate it. The State says to the owner of property, you may dispose of it in a certain manner, you may continue to control it for so long a time after your death by a will made with certain formalities, and if you do not dispose of it yourself, under the provisions of law it shall be distributed in a certain manner. And the only question is, are these laws having reference to the present condition of business and society, just, and best adapted to promote the highest interest of the State? I contend that they are neither just, nor adapted to the present condition of business, or society. Jefferson supposed that under a system of laws such as he favored, with entail and primogeniture abolished, that it would be impossible for large and oppressive fortunes to accumulate, to endanger the rights and liberties of the people. He could not have foreseen the present forces that are more pernicious than those he attempted to remedy. Does any one doubt that he, if alive at the present time, with the views he entertained as to property and the rights of the people, would favor a more radical change than he favored then? The evils he desired to remedy then now exist, and will be continued and increased unless measures are at once taken to prevent it. The ownership of lands by corporations for speculative purposes ought to be prevented, for it is against the spirit of our laws against perpetuities, and retards the distribution of property among the people. The right to dispose of one's entire estate, by will, as he may choose is unjust-

No man having children or grand-children ought to have the right to give more than a limited part of his property otherwise than to them. The law ought to provide for the distribution of a certain portion of the estate of a deceased person in a manner beyond the control of the possessor, and in no case ought the owner of property to control the use of any part of it beyond the life of a person living at the time of the testator's death. The property of this country ought to be controlled by the living. I know our Saviour said, "let the dead bury their dead," which at first seems almost unnatural and harsh, but it was said in the interest of the living, and to command the living to present duty; but what shall be said of laws which enable the dead to bury the living? The gifts of large estates to charitable uses, as they are termed, has assumed such a magnitude, and is placing such large amounts of property beyond the control of the people, that vigorous action has become necessary to stay its progress. This mode of disposing of property is often more the result of malice than of charity, and the professed end, the benefit of the poor and unfortunate, is often not attained. If real and personal property is to be put in the possession of these corporations at the will of the possessors, without regard to the rights of society, they may ere long become the owners of a large extent of lands, and other property, and burden and oppress the people rather than bless them. There is great need in this State of a law which shall prevent a person from giving to charitable uses by will or deed made just before his death, made at a time when he may be easily influenced by his immediate attendants, those upon whom he is dependant for the supply of his immediate wants, when in a condition not to appreciate his true relation to others. I repeat, the giving of large estates to

corporations for charitable uses is a growing evil, one of great magnitude, and should be remedied. It is opposed to the genius of our institutions. This matter has already excited the attention of some of the States and well deserves ours. We are constantly making changes in relation to the transmission of property, and I trust we shall very soon make changes in the direction I have suggested. It is the right and duty of the State to see that property is not disposed of by its owner in a manner inconsistent with the public good, and it has the duty to decide what the public good demands. I commend this matter to your earnest and practical consideration. The subject is one of vital interest to you.

PREVENTION OF VIOLENCE.

I advocate no rash measures; I am no communist. I desire to prevent, if possible, the existence of such a condition of affairs as will lead the people to look to temporary communism as a remedy for its evils. I respect the rights of property, and would have them rest upon such a foundation as to be entitled to respect and protection. The ambition to accumulate property is a laudable one, and is to be encouraged within just limits; but facilities for robbing the masses ought not to be furnished by the State under the pretence of protecting property. The rights of property and the rights of men as men, are both to be regarded, but the rights of property ought to be so adjusted as to favor as equal a distribution of property among the whole people as is possible. If the facilities for accumulation increase, as it is certain that they have increased and will most rapidly increase by reason of the great change in the mode of communicating information and of transporting merchandise, the facilities for distribution among

the masses from whom the accumulations are gathered ought to be correspondingly increased. If the blood flows but in one direction only, life will be soon extinguished; and if the profits of labor flow towards the already rich, without the proper return to the laborer, the laborer must soon become exhausted. The merchant who assists the producer in getting his products to market and consumption, is performing a service of great value to the various branches of business in which he participates. The producer is not usually a good man to introduce his products into market; the middle man is a necessity, and any effort to get rid of him will result unfavorably both to the producer and consumer. But of what value to any one can the man be who sells millions of bushels of grain, and millions of bales of cotton, never produced, never to be produced, who constantly sells but never delivers, who is simply betting upon prices, upon the providence of God and the credulity of the public, upon his capacity to demoralize the market and rob the honest dealer and consumer. There is now a large class of men who only gamble in prices, but do not deal in merchandise; and when sales appear to be largest, often the least goes into the market. These gamblers produce nothing valuable, and are the means by which large numbers of people are being defrauded; they create a distaste for honest labor, and their influence is greatly demoralizing. "He that hasteth to be rich shall not be innocent." It is within the power of the State to prohibit this mode of gambling, and to punish those engaged in it, and it is the duty of the State to do this at once.

OUR COMMERCE.

Our country is naturally a commercial, as well as an agricultural country, and it is for the interest of agriculture that our

commerce shall be in a flourishing condition. It is the duty of the people to have such a policy pursued as will revive it, and place it where it can by proper measures be placed, namely, upon a prosperous basis. The farmer now looks to a foreign as well as a home market for his productions. The price of grain is as much fixed in Liverpool as in Chicago. The exports of what may be fairly classed as agricultural products in 1881 amounted to over seven hundred and eighty millions of dollars, about four-fifths of all our exports, and but a very small percentage was carried in American vessels. This condition of our commerce is a disgrace to our country, can be and ought to be remedied. It is for the farmer to say whether such a policy shall be pursued as will restore our commerce to her natural and prosperous condition. I cannot go into a discussion on this occasion of the measures necessary to bring about so desirable a result, but ask your favorable consideration of all legitimate measures to secure its deserved prosperity. Its success is essential to yours. While the farmer ought not to do anything to discourage manufactures, but to do all that can fairly be done with a proper regard for all the other interests to promote their prosperity, he is in duty bound to let no opportunity pass which is offered to revive our dilapidated commerce. We must adopt such measures as will give our commerce the lofty position to which it is entitled among the enterprises of the people.

CONCLUSION.

Does any one ask why I have thus occupied your time, I answer, the subjects of which I have spoken are of especial interest to you, and because I am most desirous of having the evils that threaten us averted by peaceful measures, with the

firm conviction that if that is accomplished it must be accomplished by the yeomanry of the country. I know that an educated and intelligent people will not quietly submit to have the property in the hands of the few, any more than they will consent to have the political power of the State in the hands of the few. The poverty of the masses will not be tolerated if the country is rich. Political and civil rights will not be highly valued, which will not enable the possessors of them to obtain a fair share of the lands and a fair compensation for labor. If the wealth of the country in a generation or two shall have passed into the hands of the few, the coming multitudes will not be bound to submit to its remaining there through the operation of laws which they can change, ought not to submit to it, and I rejoice to believe will not. If wise and just laws are not enacted which will return a fair share of the wealth of the country back to the masses, from whom it is obtained, the earthquake and the volcano, the whirlwind and the tornado, will do it. The people now have the opportunity to provide by wise statesmanship for the accomplishment of that which, if they fail thus to accomplish, revolution with all its excesses must accomplish.

It is yet to be determined whether an intelligent republic can govern by reason, or whether it will leave violence to work the changes which peaceful legislation should accomplish. It will be but a short period of time before all the property of the country will be in the hands of a very small number of persons indeed, if the present policy of the government is pursued.

The present laws regulating the distribution of the estates of deceased persons wholly fail to provide a remedy. The system of wills, by which the larger portion of an immense

estate is given to one person in a family, for the purpose of having it kept intact and accumulate, does away substantially with the relief the laws for the distribution of estates of deceased persons might otherwise afford. The great wealth in the city of Boston has already passed into the hands of a small portion of its inhabitants. Eighty-five per cent. of the men who are assessed pay only a poll tax. This wealth is in the hands of about fifteen per cent. of the persons assessed, and the larger part of it is in the hands of a small percentage of this fifteen per cent. Boston is doubtless a fair representation of the other cities of the country. It is no satisfactory answer to this condition of affairs to say that such has always been the case. Where it has been the case a select class has governed, and the masses have been held in subjection by force. But the intelligent masses have the power in this country and they will finally use it to overthrow whatever form of despotism may oppress them. While the farmers own the lands they cultivate, as is now the case, they will act as the great conservative force to preserve the peace of the country; but when the great mass of the cultivators of the soil are but tenants, the season of violence is rapidly approaching. It is for the farmers to say whether they will tolerate a policy which will bring about such a result as I have contemplated. Out of 4,008,907 farms in 1880, 2,984,306 were cultivated by their owners, and 702,244 were worked on shares, a large percentage of the latter being in the recent slaveholding states, where the freedmen prefer to work on shares rather than on wages, and where the large plantations are being divided, which is having a most beneficial effect upon that section of the Union, and will have a powerful tendency to preserve the peace of the Union. The South is now a great conservative force in the

country, having mostly an agricultural population, the masses constantly improving in education and in the acquiring of wealth. I have spoken to you with regard to the public lands of the country being taken up so rapidly and held for speculation, because I regard it as most mischievous in its tendency, and it should be stopped by prompt and efficient measures. The best heritage we can leave to coming generations is free lands. So long as there are public lands to be preempted, or bought for a nominal price, oppression of the great mass of the people will not be very convenient; when the day of free lands has come to an end oppression of the most cruel character is certain. Do not, I entreat you, permit this rich heritage, the security of freedom to be wasted; do not let it become the means of cruel oppression instead of generous protection. I have spoken of the increasing power of corporations and its blasting influence upon individual enterprise and individual independence, that you may carefully consider the subject, check its progress, and remedy as far as possible the evil already done. I have spoken of the system of introducing servile labor, which will intimidate and degrade free labor, the maintenance of the dignity of which is so essential to the security of the republic, knowing that a free people will not long submit to it, and the danger that disgraceful violence may be the result unless that system receives at once the stamp of public condemnation.

I have already occupied as much of your time as I feel at liberty to occupy. I have not had time to go into details to any considerable extent, but have thrown out a few suggestions for your consideration; have sown, I trust, some good seed. I know I have sown on good ground, and if it ought to spring up and bear fruit, I am confident it will do so. I will

only remind you in closing, what you well know to be the fact, that farming is the healthiest, the most independent and profitable of all the occupations, and presents to the young men of our country the surest road to comfort and competence. It is the most productive in sturdy, honest minded, brave and intelligent men.

Jefferson truly said "Those who labor in the earth are the chosen people of God, if ever he had a chosen people, whose breasts he has made his peculiar deposit for substantial and genuine virtue. It is the focus in which he keeps alive that sacred fire which otherwise may escape from the face of the earth. Corruption of morals in the mass of cultivators is a phenomenon of which no age nor nation has furnished an example." Let not the young men be allured from the safe and ennobling pursuits of agriculture by the dazzling wealth of a few wicked gamblers obtained by grossest fraud and robbery.

The words of Solomon are as applicable now as when he uttered them, "He that tilleth *his* land shall have plenty of bread; but he that followeth after vain persons shall have poverty enough."

SIXTY-THIRD

ANNUAL CATTLE SHOW AND FAIR.

The Cattle Show and Fair was held Sept. 25th and 26th, 1883, at the "Willows," Salem. The Exhibitions in the various departments of the Hall, were very large and fine. That of Stock, rather below the average of our Fairs.

The Peabody Academy of Science and the Essex Institute, both County Institutions, united with the Essex Agricultural Society, in the Exhibition, and the members of those organizations rendered efficient service, and contributed much to our success.

The following are the number of entries in the several classes:

STOCK, ETC.

Fat cattle,	3	entries.
Bulls,	8	"
Milch Cows,	7	"
Herd of Milch Cows,	2	"
Heifers,	16	"
Working Oxen and Steers,	7	"
Steers,	4	"
Town Teams,	2	"
Stallions,	2	"
Brood Mares,	4	"
Family Horses,	9	"
Farm and Draft Horses,	9	"

Pairs of Draft Horses,	11	entries.
Colts,	5	"
Swine,	15	"
Sheep,	3	"
Poultry,	14	"
Ploughing,	18	"
Agricultural Implements, &c,	11	"
Carriages,	3	"

IN THE HALL.

268 plates of Pears; 187 of Apples; 13 of Peaches; 128 of Grapes; 4 of Quinces; 1 of Blackberries; 464 lots of Vegetables, and 4 of Seed; 4 entries of Butter; 19 of Bread; 2 of Cake; 6 of Pickles; 5 of Preserved Fruit; 3 of Canned Articles; 2 of Catsup; 1 of Jelly.

85 entries by 71 contributors, of Counterpanes and Rugs; 7 entries by 4 contributors, of articles manufactured from Leather; 21 entries by 12 contributors, of Manufactures and General Merchandise; 82 entries by 65 contributors, of Fancy work and works of Art; 9 entries by 8 contributors, of work, by children under 12 years of age.

CHAS. P. PRESTON, *Sec'y.*

REPORTS OF COMMITTEES.

FAT CATTLE.

The Committee on Fat Cattle, present the following report. The oxen exhibited by the City Farm of Salem, were unusually good, those that received the first premium, were so nearly equal, in all good points, that, as one member of the committee remarked, it was hard to say which was the best ox. It was a matter of surprise to us, that oxen could be made so fat with so little extra cost for food. The remark was made by a butcher on the committee, that being cared for at the public expense worked well for *oxen*, whether it did for paupers or not. (It being understood that the Superintendent of the City Farm had seen service at an institution, which has been charged with not so feeding and caring for its inmates as to put them in good condition for public inspection.)

The statements of Mr. Barker would show a large profit on fatting cattle, even in Salem. We regret that the weight of the oxen in May last, was not given. Some of the committee were of the opinion that at that time, most farmers would have called them good beef.

We suggest, if it meet the approval of the trustees, that, in future, the statements concerning fat cattle, shall give the weight and value of the same at the commencement of fatting, the cost of the food, and the manner of feeding. At the present time, when horses are taking the place of oxen, on so many of the farms of the County, it is a matter of interest to know if many of us can, at an expense of $22, so fatten a yoke of oxen that a gain of $40 to $60, can be made on them in a season; as Mr. Barker says his oxen worked hard all the time, it is fair to assume that the work paid for the hay.

Mr. Brown, of Peabody, had the largest oxen on the ground.

A noble pair they were, weighing 4435; and while not so fat as the city cattle, came as near to it as we country farmers would be likely to make them. Judging from the looks of the oxen, we thought they had worked a good deal more than the others, but that, as a question affecting the relative gain, or the expense of fattening, after allowing the value of the work done, could not be determined from the statements of the owners, which are appended to this report.

We awarded to City farm, for oxen No. 1, the first premium of $10; to the same, for oxen No. 2, the second premium of $8; and to Robert P. Brown, of Peabody, the third of $4. The City farm entered a fat cow that was entitled to a premium, had any been offered for fat cows, but as there were none, we could only recommend that a gratuity of $5 be awarded, if thought best by Trustees, and we would invite the attention of that board, to the subject of premiums to be offered in future, for fat cows not in competition with oxen, as was done formerly, when the premium was for the "best fatted animal, whether ox or cow," but in a class by themselves.

At the present time, when so many cows are fattened every year, in connection with the production of milk, and as some farmers claim to good advantage,—it would be well if those engaged in that branch of the business might be induced, by the offer of the premium referred to, to exhibit their cows, and present full accounts of cost and results, both in gain of weight and value of milk produced, if any, while being fattened.

The statement in regard to City farm oxen is as follows: No. 1 Cattle, five years old, weight 3900 lbs.; they were fed, from May 1 to July 1, 4 qts. of meal each, per day; from July 1 to Sept. 25, 6 qts. each, with plenty of hay, and worked every day. Cost of meal fed, thirty-eight bushels, at 60 cents, $22.80.

No. 2 Oxen, seven years old, weight 4200 lbs., fed, from May 1 to July 1, with six qts. meal per day; from July 1 to Sept. 26, 6 qts. meal, 2 qts. shorts each, per day. Cost of meal

$26, shorts $3, total $29. Fed for three weeks previous to the show, with corn fodder and no hay.

(Signed) Frank Barker, *Supt.*

Mr. Robert P. Brown's statement: I enter one pair Fat Cattle, eight years old, weight 4435, fed on hay and six qts. meal each, per day. They have worked all summer. I have owned them since March 1, 1883.

(Signed) Robert P. Brown.

There were also 2 yokes of oxen, entered by H. C. Ware, of Marblehead, one pair of which, we think from the statement, should have come under the care of another committee as an "experiment in fattening cattle," the claim in the statement being for greatest gain of weight within a given time. The cattle were not done gaining and if the record is continued, it will be of value. The other pair were not as good as those to which we awarded the premiums, and hence we can only mention them as adding to the interest of the Show. We hope the day may be far distant when the fat cattle, the working oxen and the thrifty steers of our farmers, shall cease to be found in goodly numbers, at the annual exhibition of the Essex Agricultural Society.

Charles J. Peabody, *for the committee.*

BULLS.

The committee award to:—

D. A. Massey, Danvers, Ayrshire bull over two years old, first premium, $8.

A. P. Loring, Beverly, Guernsey bull over two years old, first premium, $8.

George D. Sargent, Lynn, Jersey bull over two years old, first premium, $8.

B. W. Crowninshield, Marblehead, Jersey bull over two years old, second premium, $4.

Daniel Barrett, Salem, Jersey bull under two years old, first premium, $4.

Thomas Sanders, Haverhill, Jersey bull under two years old, second premium, $2.

John Bell, John G. Page, John Bradstreet.—*Committee.*

MILCH COWS.

The committee award to:—

W. A. Jacobs, Danvers, milch cow, special premium, $15.

John S. Ives, Salem, milch cow, Ayrshire, first premium, $10.

John S. Ives, Salem, milch cow, second premium, $4.

Timothy O'Keefe, Peabody, milch cow, Jersey, first premium, $10.

Patrick Tracy, Salem, milch cow, grade, first premium, $10.

STATEMENTS.

I enter for special premium for the best Milch Cow, of any age or breed, my native cow, "Lady Fannie," eleven years old.

She dropped her last calf Feb. 11, 1883; is due to calve April 20, 1884.

Her record from March 1, 1883 to Sept. 1, 1883, is as follows:—

March, 31 days,	1651 lbs.
April, 30 days,	1555 lbs.
May, 31 days,	1470 lbs.
June, 30 days,	1471 lbs.
July, 31 days,	1362 lbs.
Aug., 31 days,	1188 lbs.
184 days,	8697 lbs.

An average of 47.26 lbs. per day.

Her feed has been two quarts of cotton seed, two quarts of corn meal, and three quarts of shorts, per day, with hay three times a day until pasturing time. Continued to grain her as above, and to help out deficiency in pasture, have given some green fodder. W. A. Jacobs.

I enter my Ayrshire Cow, six years old last February. She dropped her last calf Aug. 20, 1882 and milked at that time 16 quarts strained milk per day; is now giving 8 quarts per day; is due to calve Feb. 1st. Her feed has been pasture, with no other feed until September; in winter, corn fodder and black grass, with one-half bushel mangel wurtzels.

John S. Ives.

I enter my Ayrshire Cow, nine years old. She calved July 24, 1883, and gave last week 18 quarts milk per day, on pasture feed, with corn fodder at night. Last March, when heavy with calf, she milked nine quarts per day.

John S. Ives.

I enter a Jersey Cow, four years old, June 15th, 1883. Milked 16 quarts for four months after calving, Jan. 1st, now giving 12 quarts per day. Timothy O'Keefe.

I enter one cow with calf, age four years; calved last Saturday night, Sept 22d. She milked after her first calf, from 14 to 16 qts. a day, for three months. After her second calf, 18 to 20 qts. a day. This being her third, haven't had an opportunity to say anything on her present milking qualities. In feeding she was never forced, as she only gets 4 qts. of shorts a day, in winter, with English hay, and nothing but her pasture in summer. She was milked regularly, up to four weeks of her calving, and then she was milked once a day; would milk up to time of calving. She gives rich milk, also makes splendid butter.

Patrick Tracy, Grove street, Salem.

Sherman Nelson, John Swinerton, Thos. G. Ordway.—*Committee.*

HERD OF MILCH COWS.

The Committee, on Herd of Milch Cows, report two herds entered for premium. One of John P. Palmer, of Swampscott, with only four cows. The rules of the society requiring five, and not being furnished with a statement, nor any one to give us any information about them, the committee could not grant them a premium, although they were apparently good stock. The herd of Thomas Sanders, of Haverhill, were also entered for premium, Mr. Sanders stating that this was the same herd that had been entered last year for premium. The report of milk could not be furnished in full, as they had been summered at the Home Farm, at Milton, to be served by the celebrated Bull Bombos Son.

Mr. Sanders took considerable trouble and expense to get them from there, and without them the show would have been very small indeed. The committee being somewhat divided as to the claims for premiums, awarded Mr. Sanders $12.00, the second premium.

S. S. Pratt, *for the Committee.*

HEIFERS—FIRST CLASS.

The committee award to :—

Thomas Sanders, Haverhill, milch Jersey heifer "Lady Birch," three years old, first premium, $10.

Thomas Sanders, Haverhill, Jersey heifer "Effie Birch," sixteen months old, first premium, $4.

Thomas Sanders, Haverhill, Jersey heifer "Birch Breeze," seventeen months old, second premium, $2.

City Farm, Salem, Dutch yearling heifer, second premium, $2.

D. A. Massey, Danvers, Aryshire heifer "Crocus," 3d, thirteen months old, first premium, $4.

D. A. Massey, Danvers, Aryshire heifer "Princess Wells," twenty months old, second premium, $2.

J. S. Ives, Salem, Ayrshire calf, first premium, $4.

Edward Kent, Geo. Clark, H. A. White, J. L. Evans.—*Committee.*

HEIFERS—SECOND CLASS.

The committee award to:—

Joseph H. Blunt, Andover, grade Ayrshire heifer, (milch), first premium, $10.

J. H. Perkins, Lynnfield, grade Ayrshire heifer, seventeen months old, first premium, $4.

T. C. Durkee, Peabody, grade Ayrshire heifer, second premium, $2.

John Dane, Jr., Hamilton, grade Jersey calf, first premium, $4.

B. H. Farnum, North Andover, grade Hereford calf, second premium, $2.

L. H. Bailey, Elbridge Mansfield, John T. Bancroft.—*Committee.*

WORKING OXEN AND STEERS.

The committee award to:—

J. J. H. Gregory, Marblehead, Durham oxen, first premium, $12.

J. J. H. Gregory, Marblehead, Broad Horn, second premium, $10.

Benj. H. Farnham, North Andover, oxen, third premium, $8.

William Christopher, Middleton, steers, first premium, $10.

WM. B. CARLTON, *Chairman.*

TOWN TEAMS.

The committee award to :—

City of Salem, for ox team, first premium, $20.

Town of North Andover, for ox team, second premium, $12.

Jas. J. Abbott, Geo. B. Loring, H. N. Reed, John Meacom. —*Committee.*

STEERS.

The committee award to :—

S. and N. Longfellow, Groveland, steers three years old, first premium, $8.

J. Ralph Farnum, North Andover, steers three years old, second premium, $6.

Henry Gardner, Peabody, steers yearling, first premium, $5.

B. S. Barnes, Alden Story.—*Committee.*

STALLIONS.

The committee award to :—

S. Endicott Peabody, Salem, stallion, first premium, $10.

Ira P. Pope, *Chairman.*

BROOD MARES.

The Committee on Brood Mares have attended to their duties, and beg leave to make their report as follows :

There were three entries of Brood Mares with their foals, but your committee found but two on the ground, and one of them had no card on the pen, or any one to give the desired information.

The committee decided that H. H. Dempsey, of Wenham, should have the first premium of $10, for his Fearnaught mare and colt.

Your committee regret that mares entered for premium cannot be driven in harness, so that they could judge better of their disposition, gait and style, &c. This, we think, should be required of the exhibitors by the society.,

M. C. Andrews, J. Whitehead, C. S. Clark, Joseph Akerman.— *Committee.*

FAMILY HORSES.

The committee award to :—

Charles Sanders, Salem, family horse, first premium, $10.

O. S. Butler, Georgetown, family horse, second premium, $6.

William Cogswell, Bradford, family horse, third premium, $4.

Chas. H. Gould, Henry L. Tenney, David Stiles, A. B. Woodis.— *Committee.*

FARM AND DRAFT HORSES.

TheCommittee report the entry of ten horses, varying in weight from 860 to 1540 pounds ; that each of them performed the task in compliance with the rules of the society, but they do not consider a load of 2000 pounds a test of the ability of a draft horse on as slight an elevation as that on which they performed their work, and are unanimously of the opinion that the restrictions governing the manner of testing the strength, disposition and training of the horses in this class, should be left more to the discretion of the committee, under the varying conditions and circumstances that yearly occur by change of location ; and for the benefit of those who wish to exhibit a premium horse, recommend, instead of the existing rule, the adoption of the use of a block of uniform dimension, (say 2 in. by 2 in.), to be used before one wheel, if they deem it necessary.

We have awarded the premiums as follows :—

Aaron Knowlton, Essex, first premium, $10.00.

Jonas Rollins, Danvers, second premium, $6.00.

Horace Ware, Marblehead, third premium, $4.00.

And recommend a gratuity to Thomas H. Roberts, Gloucester, $2.00.

A. Newhall, Albert S. Brown, H. W. Foster, J. C. Stanley, R. Alley.— *Committee.*

PAIRS OF DRAFT HORSES.

The committee award to :—

Calvin Putnam, Danvers, first premium, $12.

Edward P. Perley, Danvers, second premium, $8.

J. J. H. Gregory, Marblehead, third premium, $4.

Amos Pratt, Hugh Hill, J. Otis Winkley.— *Committee.*

COLTS—FIRST CLASS.

The committee award to :—

Charles Sanders, Salem, colt, four years old, first premium, $10.

L. H. Chase, Lynn, colt, three years old, first premium, $8.

William Cogswell, Bradford, colt, three years old, second premium, $5.

O. S. Butler, *Chairman.*

COLTS—SECOND CLASS.

The committee award to :—

William Cogswell, Bradford, colt, two years old, first premium, $6.

John P. Palmer, Swampscott, colt, yearling, second premium, $4.

S. M. Titcomb, W. P. Bailey, B. F. Jenkins.— *Committee.*

SWINE—FIRST CLASS.

The Committee award to :—

T. H. O'Neal, Danvers, Berkshire Boar, first premium, $8.

S. E. Marsh, Lynn, Poland China Boar, second premium, $5.

Danvers Lunatic Hospital, Weaned Pigs, first premium, $8.

S. E. Marsh, Lynn, Weaned Pigs, second premium, $5.

M. Bermingham, Salem, Breeding Sow, first premium, $8.

Enoch Merrill, Robert G. Buxton, Geo. E. F. Dane.—*Committee.*

SWINE—SECOND CLASS.

The Committee award to :—

A. M. Trask, Danvers, Boar, first premium, $8.

A. M. Trask, Danvers, Breeding Sow, first premium, $8.

A. M. Trask, Danvers, Breeding Sow, second premium, $5.

John A. Swasey, Salem, Weaned Pigs, first premium, $8.

A. M. Trask, Danvers, Weaned Pigs, second premium, $5.

M. Bermingham, Salem, Boar, second premium, $5.

T. O. Wardwell, James H. Nason, John C. Ropes.—*Committee.*

SHEEP.

The Committee award to :—

S. S. Pratt, Danvers, Cotswold Buck, first premium, $8.

Danvers Lunatic Hospital, Cotswold Lambs, first premium, $4.

Thomas Sanders, Haverhill, Merino Lambs, first premium, $4.

Samuel E. Gilman, Elbridge Merrill, Jos. Newell, N. W. Moody.—*Committee.*

POULTRY—FIRST CLASS.

The Committee award to :—

W. M. Ward, Peabody, Light Brahma Fowls, first premium, $2.

F. M. Allen, Lynn, Light Brahma Fowls, second premium, $1.

Cook & Low, Gloucester, Light Brahma Chicks, first premium, $2.

F. M. Allen, Lynn, Light Brahma Chicks, second premium, $1.

C. A. Cooper, Salem, Langshan Fowls, first premium, $2.

L. A. Mead, Lynn, Langshan Fowls, second premium, $1.

C. A. Cooper, Salem, Langshan Chicks, first premium, $2.

L. A. Mead, Lynn, Langshan Chicks, second premium, $1.

W. M. Reed, Beverly, Pekin Ducks, first premium, $2.

A. F. Harvy, W. Harvy Allen, J. C. Underhill.—*Committee.*

POULTRY—SECOND CLASS.

The Committee award to :—

Clarence E. Low, Gloucester, Wyandotte Chicks, first premium, $2.

C. A. Cooper, Salem, Wyandotte Chicks, second premium, $1.

C. A. Cooper, Salem, Silver Hamburgh, first premium, $2.

C. A. Cooper, Salem, White Leghorn Fowls, first premium, $2.

C. A. Cooper, Salem, White Leghorn Chicks, first premium, $2.

C. A. Cooper, Salem, White Leghorn Chicks, second premium, $1.

Mrs. H. Wendell, Gloucester, Black Hamburgh Fowls, first premium, $2.

Willard L. Fisk, Saugus, Plymouth Rock Chicks, first premium, $2.

Peter M. Neal, Lynn, Plymouth Rock Chicks, second premium, $1.

George Buchan, J. I. Ladd, Hiram Young.— *Committee.*

PLOUGHING—DOUBLE OX TEAMS.

The Committee award to:—

Benjamin H. Farnum, North Andover, first premium, $12.

J. J. H. Gregory, Marblehead, second premium, $10.

M. H. Poor, W. H. Greenleaf, Geo. M. Wonson.— *Committee.*

PLOUGHING—SINGLE TEAMS.

The Committee on ploughing with single ox teams report but one entry ; that of Charles J. Peabody of Topsfield.

The land on which Mr. Peabody ploughed was stiff and clayey, and owing to the dryness of the season, very hard, making it difficult to do good work with a team and plough as light as Mr. Peabody's. One part of the field was well done; another part over which ran a cart-path, was not ploughed so well.

It was the opinion of the committee or a portion of it, that Mr. Peabody would have made better work if he had cut his furrow slices one or two inches narrower.

The committee regret that there were not more entries by which they could judge of the comparative quality of the work performed, but it seems that the horse has largely superseded the ox on our farms. At some of the ploughing matches twenty-five or thirty years ago, there were more competitors in this class than in any other, against one competitor in each of the last three years.

The committee unanimously award to Charles J. Peabody, of Topsfield, the second premium of $5.

Geo. L. Hawkes, *Chairman.*

PLOUGHING WITH HORSES—COMMON PLOUGH.

The Committee award to :—

Walter F. Dodge, Beverly, first premium, $12.

Thomas C. Durkee, Peabody, second, $10.

R. S. Bray, Newbury, third, $8.

J. J. H. Gregory, Marblehead, J. Gouger, plowman, fourth, $6.

Joseph S. Howe, Henry W. Foster, David Warren, J. W. Blodgett.—*Committee.*

PLOUGHING—SWIVEL PLOUGH.

The Committee award to :—

Wilkins & Christopher, Danvers, with oxen, first premium, $12.

Jonas Rollins, Danvers, with horses, first, $10.

E. P. Perley, Danvers, with horses, second, $6.

Otis F. Putnam, *Chairman.*

SULKY PLOUGHS.

Two Sulky Ploughs put in an appearance at the trial, viz., the Cassady, entered by Mr. Saml. S. Pratt, and the Reynolds, by Messrs. Whitcomb & Carter.

It was unfortunate that, owing to a mistake for which neither the committee nor the contestants were responsible, the two Sulkys were obliged to do their work in different parts of the field, and not side by side. This, owing to the crowd intervening, the difference in the sod, and somewhat in the quality of the soil, prevented so thorough a comparison between the work of the two ploughs, as was desired by your committee.

The three points to be considered by us, were " ease of draft, amount and quality of work." The finish by the Cassady was very well done, much superior to that by the Reynolds plough. The furrow slices were turned better by the Reynolds, but the

Cassady had a thinner sod, and, as a rule, a more stony ground to work in. In the matter of draft,—as there was no dynamometer by which to test—the structure of the two ploughs, and such other facts as were accessible to your committee were brought to bear on the point. The facts that the Reynolds had the larger wheel, that the Cassady had to expend power to overcome the friction caused by the wheel which hugged the land, that while the two horses that drew the Cassady weighed 2800 lbs., those which drew the Reynolds weighed 2200, while the thickness and weight of the slice of soil turned by the Cassady (9 x 17) was no larger than that turned by the Reynolds, all went to prove that to perform the same work, this plough required less power than the Cassady. The statement of Mr. Page, foreman on Dr. Loring's farm, where both the ploughs are in use, that he found that to do the same work, the Cassady required one more horse than the Reynolds, coroborated the committee in their view. The result of the trial leaving in the minds of the majority of the committee one point in favor of each plough, and the third about equally in favor of each. We thought the wisest course was to divide the premium between the two contestants, and accordingly we awarded $5 to Mr Pratt and $5 to Messrs. Whitcomb & Carter.

As the matter of Sulky Ploughs is one of a good deal of interest to the community, it may be well to state briefly the experience of two members of the committee and add one or two suggestions. Mr. Gwinn has had experience with the Buckeye Sulky. This is adapted for any plough. Mr. G. has used Eagle No. 20, with his, and is much pleased with the result obtained, especially in breaking up sod land. I have had two of the Reynolds Sulkys in use, more or less, for the past five years. I (by which I mean my men), have made but very little use of the single plough, confining myself almost wholly to the gang ploughs. I have used these on my onion beds. A team of horses, weighing 2100 lbs., will use them, day after day, ploughing from three to four acres a day, with no more

exhaustion than half that area with the common ploughs. I plough for onions for choice shallow, from four to five inches deep.

The Reynolds works surprisingly well, on land abounding with small stones, the plough being so constructed that it will by a lateral motion work its way clear of obstructions. The greater ease of draft of the Sulky over the common ploughs, was well shown in the trial, where a pair of horses weighing 2200 lbs., on the Reynolds Sulky turned as broad and as thick a furrow slice as a team of two yoke of oxen, working side by side with them.

It strikes me that the question of which will do the work with the least draft, is of far more importance to the general farmer than the one as to which will turn the last furrow the better; and this is especially true on old land where the dead furrow is but a misfortune at the best.

In the matter of preference by farm hands, where it is left free with them to use either the Reynolds or the Cassady, on farms where both are owned, Mr. Page stated to the committee that his men, as a rule, took the Reynolds.

J. J. H. Gregory, *Chairman.*

AGRICULTURAL IMPLEMENTS.

The Committee award to :—

Whitcomb & Carter, Beverly, collection, diploma and $10.

Whittemore Bros., Boston, machines, etc., $5.

E. C. Holmes, Boston, machines, etc., $5.

Victor Hanger Company, Newburyport, sliding door hanger, $3.

Ansel W. Putnam, Danvers, side hill ladder, $2.

Webster Smith, Ipswich, potato digger, $2.

Aaron Low, Essex, potato digger, $2.

John L. Shorey, A. C. Hill, M. J. Bartlett, Frank Perkins. —*Committee.*

CARRIAGES.

The committee award to :—

M. G. Clement & Son, Merrimac, J. H. Trofatter, agent, three carriages, gratuity, $12.

Gilman Andrews, Salem, one wagon, $3.

Dean A. Perley, Danvers, one wagon, $3.

E. S. Feltch, Aaron Sawyer, Webster Smith.—*Committee.*

BUTTER AND PRODUCE OF MILK.

The committee award to :—

Daniel H. Hale, Rowley, butter, first premium, $10.

Mrs. Oliver Patch, Hamilton, butter, second premium, $8.

Mrs. S. A. Stewart, Middleton, butter, third, $6.

Charles J. Peabody, Topsfield, for the greatest produce of milk in proportion to the number of cows, diploma and $15.

STATEMENT OF DANIEL H. HALE.

The following is a statement in regard to the sample of butter entered by me, for premium :—

It was made from the milk of grade Jersey Cows ; the milk is strained in shallow pans, in a cool room, and allowed to stand until the animal heat is gone, when it is removed to the milkroom ; in 36 hours it is skimmed, the cream is kept until it is a little changed, then churned in a Blanchard churn, until it comes to the granulated state, when the butter-milk is drawn off and cold water put in ; after churning briskly a few seconds this water is drawn off, and more water put in and churned as before ; the butter is then taken out and thoroughly worked over, and salted, about 9 ozs. of salt to 10 lbs. of butter being used ; it is then put compactly in earthen pans, and set on a cool cellar bottom. After remaining 24 hours, it is again worked over (much care being taken that all the butter-milk is extracted), weighed, balled up, and again set on the cellar

bottom, for 24 hours, when it is ready for market. We prefer this method to the use of ice, as it will arrive at market in better order than butter that has been subjected to the influence of ice. We intend to keep the temperature of both milk and cream as near 60 degrees as possible. For winter use, pack the balls closely, in nice clean wooden tubs, or stone jars, care being taken that they are perfectly sweet, fit a cloth closely over the top, and have a tight fitting cover to exclude the air as much as possible. Butter so made and packed, will keep sweet any desirable length of time.

STATEMENT OF MRS. OLIVER PATCH.

I present for your inspection, fourteen lbs. September butter, made in the following manner:—

The milk was allowed to stand from twenty-four hours to forty-eight, according to the weather, being careful to skim the cream before the milk turns. Stir the cream daily. Churn once a week. *Never* put water after it comes; salt an ounce to a pound, let it stand over night, then work it over, weigh it into pound lumps, ready for market.

STATEMENT OF MRS. S. A. STEWART.

I present for your inspection, seven pounds of Butter, made in September, from the milk of one cow.

I milk in a tin pail, strain into shallow tin pans, allow it to stand from 24 to 36 hours. The butter is rinsed in cold water, salted, worked over twice, and made into lumps, as presented.

STATEMENT OF CHAS. J. PEABODY.

I offer for the premium "For the greatest produce of milk, on any farm, etc," the record of my herd, for the year, from April 1, 1882 to April 1, 1883. The herd consists of six cows, three of them grade Jerseys, the others, grade Ayrshire. Four of the number I raised, the other two were bought when young. I had the same cows through the year, the feed was grass only, from May 20, to July 20, and from July 20, to

Sept. 30, two qts. of meal were given each cow, per day, and in August and Sept. corn fodder was fed once daily. In Oct. small potatoes were fed instead of the meal, 6 qts. each per day. In Nov. the meal was again fed, with the addition of 2 qts. cottonseed meal, and this feed occasionally varied with shorts, was fed through the season. After Dec. the meal was cob-meal, and as far as I can judge it is equal, qt. for qt., with the meal we buy for the production of milk. I should have stated that this amount of grain was fed from April 1, till May 20, instead of beginning the account with the 20th of May, as I see I have done. In my method of feeding, I use river meadow hay, largely, all through the season, and as the result of several careful experiments I find that it will produce as much milk when fed with the amount of grain mentioned, as English hay. It will *not* keep the cows in as full flesh as English hay, but that can be done by a larger quantity of meal, at less expense to farmers, in this section of the County, than to feed the best hay to our cows. The farmers of Topsfield cut about one thousand tons of meadow hay, per year; at least one half this amount is good fodder, and while its selling price is not over $10 per ton, we can use it to good advantage in making milk. I also feed three or four tons of corn-fodder, in the course of the winter, using one feed per day, cut and wet.

The expense for each cow, for the year, is about sixty dollars, divided thus; pasture, $10, green corn fodder, $5, meal, $10, meadow hay, $20, dry corn stalks and English hay, $15, total, $60. The cows are watered twice a day, and in very *cold* days, a spoonful of salt fed in the cut feed, will induce them to drink more freely, and thus keep up the flow of milk. I also think it important to pump the water just as it is wanted as in freezing weather, water from the well is enough warmer than that exposed to the air, in the trough, to exert a marked effect on the amount of milk produced.

These particulars embrace all that I can give of interest, as

to feed, management and expense, as required by the Society. As to the method of keeping the milk account, I always do it by quarts, as more handy for me. The herd averaged forty-four quarts per day, for the year, an aggregate of sixteen thousand and sixty quarts, (16060) or 2676⅔ quarts, for each cow. The milk was sold at the door (except the amount used in the family), for 3½ cents per quart, for six months of the year, and 4 cents for the other six, amounting to one hundred dollars and six cents for each cow, for the year. This $100.06 less $60., $40.06, the profit on each cow, or $240.36 on the herd. In this statement, nothing is charged for the labor of taking care of the cows, and as it is done in connection with the other work of the farm and the care of other cattle, it is difficult to estimate it with accuracy.

I find, however, that it takes at least two hours a day, for the year, to milk and tend six cows; or sixty days in the year, calling the days 12 hours, and a farmer's day is seldom less than that, which, at one dollar and fifty cents, is ninety dollars for the herd, or fifteen for each cow. To offset this, reckon the manure, which in this town, is worth at least ten dollars a cord, and we have, allowing two cords per year, as the quantity made by each cow (which is a common estimate), a value of twenty dollars per cow, or one hundred and twenty dollars for the herd. Deduct ten dollars of this amount for bedding used, and we still have a balance of twenty dollars, to the credit of the cows.

Herd of six cows,	Dr.		Cr.
To cost of keeping,	$360.00	By 8408 qts. milk at 3½	$294.28
Attendance,	90.00	" 7652 " " " 4	306.08
Bedding,	10.00	12 cds. manure at $10,	120.00
	$460.00		$720.36
To balance,	260.36		
	$720.36	Profit on herd,	$260.36

The foregoing account is respectfully submitted; the month-

ly amounts of milk could be given, as the record was kept, day by day, but it would add to the length of this statement without increasing its value, so I give the total amount for the year, and will only say further that the quantity of hay fed has been determined by weighing, and every particular of the record is exactly as given. I have so far changed my cows, that this herd is not the one on which I received a premium two years ago.

BREAD, HONEY AND CANNED FRUITS.

The committee found on exhibition a large number of loaves of white bread, and all of excellent quality. The number of premiums seem small to offer to the ladies of the county, and your committee believe that the bread show would be a much more cultivated feature, if the committee were allowed more premiums and gratuities to award. The "Graham" and "Brown" bread loaves, so called, were few in number, and hardly up to the standard of former years.

No honey or dried apples were on exhibition.

The show of pickles and preserves was quite large, but most of the large collections were from parties engaged in the manufacture and sale, as a business, although there were some of fine quality, from the homes of the county.

An arrangement for cutting bread into slices, exhibited by Francis O. Butterfield, of Lynn, deserves honorable mention. It is a box and knife, simple in construction, cheap, and would prove a great convenience in every family.

Premiums and Gratuities awarded as follows :—

Mrs. Wm. H. Patch, Hamilton, white bread, first premium, $3.

Mrs. J. Henry Hill, Amesbury, white bread, second premium, $2.

Mrs. Martha Dana, Amesbury, white bread, third premium, $1.

Patterson & Co., Lynn, case of bread, gratuity, 50 cents.

I. P. Harris & Co., Salem, case of bread, gratuity, 50 cents.

Mrs. A. N. Merrill, Beverly, brown bread, gratuity, $1.

Mrs. Mary Philbrick, Salem, Graham bread, first premium, $1.50.

E. A. Smith, 2d, Salem, pickles, etc., first premium, $3.

Fred. L. Webster, Danvers, pickles, etc., second premium, $2.

Mrs. Hugh Hill, Beverly, pickles, etc., gratuity, $1.

Mrs. L. A. Mason, Beverly, pickles, etc., gratuity $1.

RUFUS KIMBALL, *Chairman.*

PEARS.

The committee award as follows :—

George H. Frye, Salem, Bartlett and Belle Lucrative, $3 for each variety, premium, $6.

J. H. Hill, Amesbury, Beurre Bosc, Dana's Hovey, Mt. Vernon, premium, $9.

S. Southwick, Peabody, Beurre d' Anjou, premium, $3.

P. M. Neal, Lynn, Clapp's Favorite, premium, $3.

Edwin Bates, Lynn, Duchesse d'Angouleme, premium $3.

B. F. Stanley, Newburyport, Lawrence, premium, $3.

F. W. Lyford, Salem, premium, $3.

A. J. Hubbard, Peabody, Marie Louise, Paradise d'Automne. and Seckel, premium, $9.

J. N. Estes, Peabody, premium, $3.

George Pettingell, Salem, St. Michael Archange, Vicar of Winkfield, premium, $6.

John O'Brien, Bradford, Sheldon, premium, $3.

W. W. Perkins, Newbury, Urbaniste, premium, $3.

C. B. Somes, Groveland, Winter Nelis, premium, $3.

C. A. Ropes, Salem, collection, first premium, $8.

J. Henry Hill, Amesbury, collection, second premium, $6.

Geo. Pettingell, Salem, third premium, $4.

Dean A. Perley, Danvers, best 24 specimens Seckel, premium, $6.

Edwin Bates, Lynn, pears, gratuity, $2.50.

A. J. Hubbard, Peabody, pears, gratuity, $1.50.

B. F. Stanley, Newburyport, pears, gratuity, $1.

J. D. Foote, Salem, pears, gratuity, $1.

J. O'Brien, Bradford, pears, gratuity, $1.

M. Dearborn, Salem, pears, gratuity, $1.

Mrs. G. N. Foster, Groveland, pears, gratuity, $1.

S. F. Tracy, Salem, pears, gratuity, $1.

C. P. Savory, Groveland, pears, gratuity, $1.

T. Putnam Symonds, Salem, pears, gratuity, $1.

Henry W. Balcomb, Salem, pears, gratuity, $1.

L. S. Hodgkins, Salem, pears, gratuity, $1.

J. W. Grant, Salem, pears, gratuity, $1.

C. H. Fifield, Salem, pears, gratuity, $1.

P. Silver, Salem, pears, gratuity, $1.

Geo. F. Brown, Salem, pears, gratuity, $1.50.

E. F. Webster, Haverhill, pears, gratuity, $1.50.

P. M. Neal, T. C. Thurlow, E. P. Richardson.—*Committee.*

APPLES.

The committee award as follows:—

T. C. Thurlow, West Newbury, Baldwin, premium, $3.

Fred A. Whitman, Wenham, Danvers Winter Sweet, premium, $3.

W. B. Little, Newbury, King of T. County and R. I. Greening, premiums, $6.

J. Henry Hill, Amesbury, Red Russet, premium, $3.

W. W. Perkins, Newbury, Tolman Sweet, Porter, Gravenstein, premiums, $9.

S. F. Newman, Newbury, Drap d'or, premium, $3.

T. J. King, West Newbury, Hubbardston, R. Russet, premiums, $6.

S. P, Elliot, Beverly, Hurlburt, premium, $3.

David Warren, Swampscott, Pickman Pippin, premium, $3.

S. B. George, Groveland, Hunt Russet, premium, $3.

Fred'k Lamson, Salem, Maiden's Blush, premium, $3.

J. Henry Hill, Amesbury, Snow apple, second premium, $2.

Augustus Verry, Danvers, Baldwin, second premium, $2.

T. C. Thurlow, West Newbury, best 24 specimen apples, premium, $6.

J. Henry Hill, Amesbury, best collection worthy of cultivation, premium, $8.

T. C. Thurlow, West Newbury, second best collection worthy of cultivation, premium, $6.

Charles A. Ropes, Salem, third best collection worthy of cultivation, premium, $4.

J. B. Knight, Newbury, Fall Harveys, gratuity, $1.50.

F. J. Bradley, Methuen, Blue Pearmain, gratuity, $1.50.

Henry Poor, Peabody, Ninety Day, gratuity $1.

M. T. Quimby, West Newbury, Crab apple, gratuity, $1.50.

John O'Brien, Bradford, Baldwin, gratuity, $1.50.

T. K. Leach, Topsfield, apples, gratuity, $1.

T. C. Durkee, Peabody, apples, gratuity, $1.

Joseph Ilsley, Newbury, apples, gratuity, $1.

J. D. Kelley, Salem, apples, gratuity, $1.

Joseph Rose, Salem, apples, gratuity, $1.

J. S. Rolfe, Newbury, apples, gratuity, $1.

S. M. Titcomb, West Newbury, apples, gratuity, $1.

T. P. Hale, Rowley, apples, gratuity, $1.

Andrew Curtis, Peabody, apples, gratuity, $1.

S. S. Knight, Danvers, apples, gratuity, $1.

John Price, Manchester, apples, gratuity, $1.

James B. Gifford, Salem, apples, gratuity, $1.

J. S. Southwick, Peabody, apples, gratuity, $1.

AARON LOW, *Chairman.*

Frank P. Todd, Geo. Pettengill.—*Committee.*

PEACHES, GRAPES AND ASSORTED FRUIT.

The Committee award as follows :—

Mrs. D. A. Varney, Salem, orange quinces, gratuity, $1.

Frederick Lamson, Salem, orange quinces, gratuity, 50 cents.

Joseph Ilsley, Newbury, blackberries, gratuity, 50 cents.

G. W. Gage, Methuen, assorted fruit, first premium, $4.

A. J. Hubbard, Peabody, assorted fruit, second premium, $3.

Frederick Lamson, Salem, peaches, yellow-flesh, pre., $2.

Edwin Bates, Lynn, peaches, yellow-flesh, second premium, $1.

F. Lamson, Salem, peaches, white-flesh, premium, $2.

Edwin Verry, Salem, Essex County Seedling, premium, $2.

T. Putnam Symonds, Salem, Hartford Grapes, premium, $3.

Rufus Goodwin, Haverhill, Concord, Rogers 15, premium, $6.

Henry Stone, Lynn, Pocklington, premium, 50 cents.

Franklin Upton, Danvers, Adirondack and Salem, premium, $4.50.

Virgil Dow, Methuen, Worden's, premium, $3.

B. W. Moon, Peabody, Martha, premium, $3.

James Lawrie, Danvers, Delaware, Clinton, premium, $4.

W. P. Hutchinson, Danvers, Delaware, Hartford, premium, $1.50.

Augustus Verry, Danvers, Rogers 3, Iona, premium, $3.50.

C. P. Savary, Groveland, Rogers 19, Diana, Adirondack, Creveling, premium, $6.

S. S. Knight, Danvers, Brant, premium, $1.

Jacob C. Rogers, Peabody, cold house grapes, premium, $6.

Mrs. E. Lovejoy, Lynn, cold house grapes, $1.

J. W. Estes, Peabody, Rogers No. 4, premium, $3.

John O'Brien, Bradford, Concord and Brighton, pre., $4.

E. Goss, Salem, Israella, premium, 50 cents.

G. W. Gage, Methuen, Isabella, Cottage, Rogers 39, and collection of 13 varieties, premiums, $14.

Jos. T. Johnson, *Chairman.*

FLOWERS.

In compliance with request of the Society that the several committees, through their chairman, should present reports, with such suggestions and explanations of the work delegated to them, as should suggest themselves, the committee upon "Flowers" would submit the following, concerning the Fall Exhibition at Salem Willows, Sept. 25th and 26th, 1883.

The position in the Hall assigned this department, was well adapted to the display; if any criticism at all, it would be in the *too* limited space for full accommodation and display of both Plants and Flowers. The delays incident to the completion of entries, were seemingly unavoidable. The wind of the morning, and rain of the previous day, interfering with the exhibitors' promptness.

Your committee, whose special work was "Awarding of Premiums," attended to their duties as quickly and thoroughly as practicable. They found chances for improvements in this Department, that would, in their opinion, if used advantageously, give better satisfaction and expedite the arranging of the exhibits, and awarding of the prizes.

For instance, the first article in schedule calls for "Best Pair of Parlor Bouquets." Your committee would not care to confess to slow movements of body and mind, but must, if they were to tell the truth, admit to spending at least three-quarters of an hour of valuable time, in awarding *this* Prize, with only *five* contestants to be considered. Our trouble was in finding the *articles themselves*, scattered, as they were, here and there, through the whole collection, and then not feeling sure but that others were lurking in side corners. This error in arrangements seems to hold true through all the display in the Flower Department, and your committee would suggest the introduction of some system, whereby Parlor Bouquets, or any other set, competing for Prizes, shall be arranged in plain sight, and designated by classes. This would also decidedly refer to collections of *dozens* of the different flowers for which

the Society in its schedule offer rewards, the same difficulty being here experienced, in getting them together, for your committee to judge of their comparative merits.

While speaking of these collections of *twelves*, your committee would like to call your attention to the fact that your exhibitors either misunderstood or are misinformed as to the conditions on which the Prizes are awarded, namely, the *Best twelve*, neither *more* nor *less*. Frequently in this exhibition, fine specimens would be shown of the several varieties evidently intending to compete, but lacking only *compliance* with the schedule as to *number*. Take for instance, *Pansies*, one party, possibly, would have twenty-five specimens arranged in line, another fifty specimens, and these displayed, possibly, in bunches of three or four flowers, in a glass, and so on, whereas the schedule says "*Best twelve Pansies*," meaning as your committee interpreted (and as our returns of "prizes awarded" indicate where "no entry is declared complying with rules"), simply *Best twelve*, arranged singly.

Again, some of these collections might profitably be designated as named varieties and seedling varieties. For instance *Best Named Dahlias* and *Best Seedling Dahlias*; *Best Named Verbenas* and *Best Seedling Verbenas*, favoring attempts at producing new sorts and holding well tried ones.

Again, you will please notice, you offer for "Best Floral Design." If any of your Honorable and Good-looking Gentlemen of the Board, were to seek *connubial bliss*, or attend a *State Dinner*, or attempt to throw off these mortal coils, and your friends wished to utilize the Floral Kingdom to help along, and they were, in these latter years of the nineteenth century, to order a "Floral Design" of a practical florist, he naturally would be obliged to ask questions. His enquiries would probably cover Wedding, Dinner and Funeral purposes, or some evening's entertainment, requiring, as you will quickly see, different sorts and arrangements of flowers, to suit the occasion. Your committee would suggest the introduction of more technical terms, possibly making at least three classest

as *Best Funeral Design*, *Best Table Design*, and *Best Wedding Design.*

We would also respectfully call your attention to the fact that no notice is taken, in your schedule of *Plant Exhibitors*, unless it may come under the sentence "For largest and best display from one individual," which from its connection, your committee have interpreted as referring only to Flowers. You certainly know you cannot expect flowers unless there are plants to produce them, and the latter certainly merit a share of attention.

Your ruling that all Flowers exhibited, should be of the Exhibitor's own growing, seems to your committee, a wise one, with the exception of the "Floral Designs." With these, no single grower would probably have, at any one time, such flowers as would go to make up a proper and tasteful design, and an exception in their favor would possibly be desirable to get a complete display, and satisfactory competition.

While it is true the cultivation of Flowering and Ornamental Plants are luxuries, often costly ones at that, there are yet large returns to the whole body of the people, in its educational effect, in it as a source of many home attractions, and as subjects for many first lessons in beauty and harmony of colors and forms. It should also be the aim of the Society in this Department, in the opinion of your committee, to properly notice quality and choiceness in its exhibitions, to develop, as we might term it, the "Artist" in grouping and arranging these productions of Nature.

In the above, your committee have endeavored to notice some of the difficulties they have met with, and some of the chances for improvement and enlargement, in this Department, that seems desirable, and without further remark, congratulate your Society upon the evident activity and interest in this, as well as the other fields of the Society's work.

The Committee award as follows :—

Mrs. C. H. Perry, Danvers, best pair parlor bouquets, premi-

um, $3; F. A. Johnson, Salem, best pair hand bouquets, premium, 3; Mrs. L. P. Weston, Danvers, best dish of cut flowers, premium, 3; Mrs. L. P. Weston, Danvers, best pot marigolds, premium, 1; Mrs. L. P. Weston, Danvers, best twelve French marigolds, premium, 1; J. L. Willey, Lynn, best twelve dahlias, premium, 1; J. L. Willey, Lynn, liliputian dahlias, premium, 1; Mrs. M. P. Nichols, Lynn, best twelve double zinnias, premium, 1; Clara M. Nichols, Lynn, best African marigolds, premium, 1; W. S. Ward, Salem, best collection cut flowers, premium, 4; Annie L. Stickney, Salem, dish cut flowers, gratuity, 50 cents; John Mitchell, Beverly, begonia—pansies, gratuity, 2; Mrs. L. P. Weston, Danvers, flowers, gratuity, 1.50; Anna D. Varney, Salem, flowers, gratuity, 50 cents; Mrs. M. P. Nichols, Lynn, flowers, gratuity, 50 cents; F. A. Johnson, Salem, flowers, gratuity, 1; Miss L. M. Patch, Salem, flowers, gratuity, 1; E F. Webster, Haverhill, flowers, gratuity, 50 cents; Jacob C. Rogers, Peabody, flowers, gratuity, 1; J. J. H. Gregory, Marblehead, flowers, gratuity, 2; B. P. Ware, Marblehead, flowers, gratuity, 1; Mrs. Thomas Symonds, Salem, flowers, gratuity, 1; Dr. H. C. Merriam, Salem, flowers, gratuity, 2; B. R. Symonds, Salem, flowers, gratuity, 1; George D. Phippen, Salem, flowers, gratuity, 2; Mrs. S. P. Fowler, Danvers, flowers, gratuity, 1; Frederick Lamson, Salem, flowers, gratuity, 1; Lizzie M. Wilson, Peabody, flowers, gratuity, 50 cents; J. L. Willey, Lynn, flowers, gratuity, 1; Mrs. M. E. Ladd, Groveland, flowers, gratuity, 1; Mrs. J. Henry Hill, Amesbury, flowers, gratuity, 1; George F. Brown, Salem, flowers, gratuity, 1; George R. Emmerton, Salem, flowers, honorable mention; H. W. Putnam, Salem, flowers, honorable mention; G. W. Cressy, Salem, flowers, honorable mention; John Robinson, Salem, flowers, honorable mention; E. and C. Woodman, Danvers, flowers, honorable mention; John Mitchell, Beverly, flowers, honorable mention.

E. E. Woodman, *Chairman.*

Miss Saunders, Andrew Nichols, Miss Brown.—*Committee.*

VEGETABLES.

The Committee award as follows:—

D. W. Bartlett, Rowley, field corn, gratuity,	$ 2.00
Reuben Alley, Marblehead, H. Squash, premium,	3.00
Jos. Russell, Marblehead, B. Cabbage, premium,	3.00
David Warren, Swampscott, S. Mason and red cabbage, premium,	6.00
A. Mason, Beverly, T. Squash and collection, premium,	6.00
Edwin Bates, Lynn, Clark potatoes and tomatoes, premium,	6.00
A. F. Lee, Beverly, M. S. Corn, premium,	3.00
Allen Lee, Manchester, B. of H. Potatoes, E. R. Potatoes, A. S. Cabbage, beans, premium,	11.00
S. M. Titcomb, West Newbury, field corn, pop do., premium,	6.00
A. Verry, Danvers, turnips, celery, premium,	5.00
S. S. Pratt, for Danvers Hospital, N. Melon, cauliflower, premium,	4.00
S. Longfellow, Groveland, yellow corn, premium,	5.00
F. W. Lyford, Salem, S. H. Carrot, premium,	3.00
W. A. Jacobs, Danvers, E. H. Squash, S. Cabbage, premium,	5.00
Aaron Low, Essex, E. B. Beet, S. Corn, premium,	6.00
Aaron Low, Essex, garden seeds, 2nd premium,	5.00
M. B. Abbott, Andover, cauliflower, premium,	3.00
I. Hardy, Peabody, corn, premium,	2.00
Salem Almshouse, mangolds, squashes, premium,	5.00
N. A. Bushby, Peabody, carrots, potatoes and parsnips, premium,	7.00
M. B. Faxon, Saugus, potatoes, premium,	3.00
J. J. H. Gregory, Marblehead, D. Onion, R. F. Tomato, Y. F. Tomato, Marblehead Squash, Marrow Squash, G. F. Melon, F. R. Onion, premiums.	20.00

J. J. H. Gregory, Marblehead, collection of seeds, 1st premium, 8.00

J. J. H. Gregory, Marblehead, collection of vegetables, 1st premium, 8.00

J. C. Durkee, E. E. Tomato, 1st premium, 3.00

Aaron Low, collection of vegetables, 2nd premium, 5.00

Andrew Lane, Rockport, cranberries, 1st premium, 3.00

A. C. Estes, Rockport, cranberries, 2nd premium, 2.00

C. P. Preston, Danvers, cranberries, 3rd premium 1.00

Aaron Low, Essex, Early Essex Potatoes, gratuity, 2.00

J. S. Ives, Salem, Queen of Valley Potatoes, gratuity, 2.00

Edwin Bates, Lynn, beans, gratuity, 2.00

D. H. Felton, Peabody, onions, gratuity, 2.00

J. Henry Hill, Amesbury, pepper, gratuity, 1.00

E. C. Larrabee, Salem, sweet potatoes, gratuity, 1.00

S. F. Newman, Newbury, S. Cabbage, gratuity, 1.00

G. W. Maynard, Lawrence, oats, gratuity, 1.00

J. C. Rogers, Peabody, cauliflower, gratuity, 1.00

Bailey Sargent, Joshua B. Grant, W. H. Little.—*Committee.*

COUNTERPANES, CARPETINGS AND RUGS.

The Committee award as follows :—

Miss M. A. Cassidy, rug, first premium, $3 ; Miss M. H. Underwood, Danvers, rug, second premium, $2 ; Mrs. Nancy Bailey, Beverly, rug, gratuity, $2 ; Mrs. G. H. Peirson, Salem, rug, gratuity, $2 ; Mrs. Thos. Gould, Ipswich, rug, gra-

tuity, $1; Mrs. S. A. Stickney, Salem, rug, gratuity, $1; Mrs. M. L. Plouff, Salem, rug, gratuity, $1; Mrs. Wm. Cheever, Danvers, rug, gratuity, $1; Mrs. C. C. Bassett, Salem, rug, gratuity, $1; Mrs. B. A. Reed, Salem, rug, gratuity, $1; Mrs. L. R. Putnam, Danvers, rug, gratuity, 50 cents; Miss E. M. Richardson, Peabody, rug, gratuity, 50 cents; Mrs. Gilman Hooper, Danvers, rug, gratuity, 50 cents; Mrs. S. E. Bugbee, Salem, rug, gratuity, 50 cents; Harriet Stone, Peabody, gratuity, $1; Miss Emily F. Reed, Salem, gratuity, 50 cents, Mrs. S. L. White, Danvers, gratuity, 50 cents; Mrs. A. B. Woodis, Danvers, gratuity, 50 cents; Miss Emma Crowther, Danvers, gratuity, 50 cents; Miss Lizzie Messer, Haverhill, gratuity, 50 cents; Mrs. J. F. Hodgdon, Salem, quilt, first premium, $4; Mrs. Orrin Thompson, Salem, quilt, second premium, $2; E. Dora Clark, Salem, quilt, gratuity, $1; Mrs. John Tenney, Salem, quilt, gratuity, 1; Mrs. John Patch, Hamilton, quilt, gratuity, 1; Mrs. L. Luscomb, Salem, quilt, gratuity, 50 cents; Miss L. A. Luscomb, Salem, quilt, gratuity, 50 cents; Mrs. W. L. Hyde, Salem, quilt, gratuity, 50 cents; Mrs. D. Jackson, Salem, quilt, gratuity, 50 cents; Mrs. Haynes, Salem, quilt, gratuity, 50 cents; Mr. N. Trask, Danvers, quilt, gratuity, 50 cents; Mrs. J. H. Morrill, Danvers, quilt, gratuity, 50 cents; Rebecca Richardson, Peabody, quilt, gratuity, 50 cents; Anna P. Evans, Salem, quilt, gratuity, 50 cents; Mrs. Gilbert Tapley, Danvers, quilt, gratuity, 50 cents; Mrs. Henry Hale, Beverly, gratuity, 50 cents; Mrs. G. H. Tyler, Peabody, gratuity, 50 cents; Miss S. P. Bassett, Salem, gratuity, 50 cents; Mrs. R. M. Jacobs, Peabody, gratuity, 50 cents.

The following extract is from an old paper of 1815, and refers to an Agricultural Exhibition at Pittsfield, Oct. 12, of that year.

"At an early hour our females were seen coming from various quarters with the rich fruits of their industry and ingenuity; and it was grateful to every lover of his native soil to

see the improvements both in quality and quantity of our *domestic* manufactures. The whole community was delighted and astonished."

This, in connection with the recollection of exhibitions of the Essex Agricultural Society thirty years ago, and various other considerations, has led your committee to the conclusion that the exhibition, in the department containing "Women's Handiwork," was not what might have been expected. We shall all allow, that, in most, if not in all, other departments, a marked improvement has been visible. Now, no sensible person of the present day, supposes for a moment, that it is true that women's work has not progressed. Why, then, is it that the same sort of work, but of poorer quality, both in taste and execution, is presented, year after year? Either give up this part of the Exhibition, or, for the good name of the women of our county, make it better.

We would like to call the attention of the Society to another subject. According to the rules "no premium or gratuity shall be awarded for any article manufactured out of the county, or previous to the last Exhibition of the Society." Now, the judges can not decide upon this point; therefore, would it not be advisable to require contributors to state on a card attached to each article, when and where the same was made.

A great many women in Essex County, work on children's clothing. We submit that such an industry might be stimulated by our society. Lace making has also been suggested, as an enterprise that might be wisely fostered.

JAMES F. ALMY, *for Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

The Committee award as follows:—

Charles P. Spencer, Salem, carryall harness, gratuity, $1.50.

Charles P. Spencer, Salem, double harness, gratuity, 5.
Charles P. Spencer, Salem, coupe harness, gratuity, 1.50.
Charles P. Spencer, Salem, interfering boots, gratuity, 2.
Charles P. Spencer, Salem, farm team harness, gratuity, 2.
E. A. Putnam, Beverly, express harness, gratuity, 2.
F. W. Lucas & Co., Salem, case boots and shoes, gratuity, 1.50.

A. A. White, Henry Hobbs, Jas. T. Johnson.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee award as follows:—

Peter C. Founier, Georgetown, horse shoes and setting, gratuity, $1.50; George Sibley, Salem, cotton staying, gratuity, 2; Israel R. Phelps, Salem, blind fixtures, etc., gratuity, 2; Almy, Bigelow & Webber, Salem, display of bonnets, gratuity, 4; Leverett Messer, Haverhill, ice pitcher guard, gratuity, 1; Almy, Bigelow & Webber, Salem, general display, honorable mention; C. H. Pulsifer, Salem, artists' materials, honorable mention; George C. Stewart, Saugus, pine needle bedding, honorable mention; M. L. Hutchinson, Salem, gloves, rubber goods, etc., honorable mention; I. P. Harris & Co., Salem, general display of groceries, honorable mention; Fifield & Page, Salem, stoves and ranges, honorable mention; Henry Hale & Co., Salem, display of hardware, honorable mention.

FANCY WORK AND WORKS OF ART.

The Committee award as follows:—

Miss M. Faxon, Saugus, paintings, etc, gratuity, $2.50; Mrs. Kate T. Woods, Salem, paintings, gratuity, 1; Miss Ida F. Upton, Salem, paintings, gratuity, 2; Miss M. E. Stanley, Salem, paintings, gratuity, 2; Miss S. O. Poor, Peabody,

paintings, gratuity, 1 ; Miss Alice Dockham, Salem, paintings, gratuity, 50 cents; Miss Sarah N. Littlefield, Salem, sketch, gratuity, 1 ; J. W. Washington, Salem, penmanship, gratuity, 1 ; M. W. Nichols, Danvers, brass plaque, gratuity, 1 ; Mrs. Abbot Rogers, Salem, brass plaque, gratuity, 50 cents ; H. G. Hubon, Salem, picture, gratuity, 1 ; Mrs. H. E. Hughes, Lynn, feather work, gratuity, 50 cents ; Mrs. L. Q. Moulton, Danvers, hair wreath, gratuity, 50 cents ; Mrs. N. E. Ladd, Groveland, etching, gratuity, 2 ; Mrs. S. E. Pitcher, Danvers, quilt, first premium, 4; Mrs. W. W. Fish, Danvers, quilt, sec-, ond premium, 2; Miss H. F. Buxton, Peabody, quilt, gratuity, 1 ; L. Symonds, Salem, quilt, gratuity, 1 ; A, L. Rolf, Newbury, quilt, gratuity, 75 cents ; L. Luscomb, Salem, quilt, gratuity, 50 cents ; E. Touret, Salem, quilt, gratuity, 1 ; A. M. Neal, Salem, table cover, gratuity, 1 ; Miss M. W. Farrington, Salem, afghan, gratuity, 2 ; Miss S. A. Brewer. Wenham, afghan, gratuity, 1.50 ; Mrs. H. Newman, Newbury, afghan, gratuity, 1 ; Miss Gertie Lamson, Topsfield, fancy work, gratuity, 1 ; Miss Caroline Stevens, Salem, fancy work, gratuity, 50 cents ; Mrs. William F. Luscomb, Salem, fancy work, gratuity, 1 ; Miss K. E. Davis, Salem, fancy work, gratuity, 50 cents ; Mrs. H. E. Reed, Salem, fancy work, gratuity, 1 ; Miss M. P. Lambert, Salem, fancy work, gratuity, 50 cents ; Miss Nellie B. Noland, Salem, fancy work, gratuity, 1 ; Miss M. F. Pitman, Salem, fancy work, gratuity, 1.50 ; Miss Maggie Moir, Danvers, fancy work, gratuity, 1 ; Miss L. Luscomb, Salem, fancy work, gratuity, 50 cents ; Mrs. Barker, Salem, fancy work, gratuity, 50 cents ; Mrs. G. E. May, Salem, fancy work, gratuity, 50 cents ; A. F. Wilson, Peabody, fancy work, gratuity, 75 cents ; Marion Faxon, Saugus, fancy work, gratuity, 50 cents ; Bessie Newhall, Salem, fancy work, gratuity, 1 ; Miss A. B. Chadwick, Peabody, fancy work, gratuity, 75 cents ; Miss A. S. Berry, Danvers, fancy work, gratuity, 50 cents ; Miss L. Hill, Beverly, fancy work, gratuity, 50 cents ; Mrs. M. A. Bickerman, Salem, fancy work, gratuity, 50 cents ; Miss Alice Richards, Saugus, fancy work, gratuity, 50 cents ; Beverly

Pottery Company, pottery, gratuity, $1.50 ; Mrs. Warren Foster, Danvers, fancy work, gratuity, 50 cents; Mrs. Donovan, Salem, fancy work, gratuity, 50 cents.

The Committee find that the display of Fancy Work is inferior, both in quality and quantity, to that of previous exhibitions; the reason for the latter can only be attributed to the fact, that, for the two past exhibitions, so many contributors have been refused tickets of admission. But few people care to be at the trouble and expense of carrying their work to the Fair, just for the opportunity of showing their handiwork, and the possible chance of receiving a gratuity; consequently, there is a falling off in the display; whereas, the past liberal policy of the society, in giving cards of admission, to contributors, encourages contributions, and it is to be regretted that any deviation has been made from the old established rule.

I. S. Ladd, *for Committee.*

The undersigned members of the committee dissent from the above statement; while they recognize the inferiority of the exhibition, they do not consider it due to the above-mentioned cause.

Mrs. Frederick Cate,
Mrs. W. L. Bowdoin.

WORK BY CHILDREN UNDER TWELVE YEARS

The Committee award as follows :—

Grace M. Tapley, Danvers, darned lace, first premium, $3 ; Wm. M. Reed, Beverly, charcoal drawings, second premium, $2 ; Miss Jessie K. Dodge, Rowley, patch-work quilt, gratuity, 50 cents; Miss Lotta M. Hardy, Rowley, braided mat, gratuity, $1 ; Miss Grace C. Greene, gratuity, $1 ; Miss Essie M.

Shove, Peabody, tidy, gratuity, 50 cents; Miss Florence Low, Salem, patch-work, gratuity, 50 cents; A. Shirley Ladd, Groveland, pincushion, gratuity, 50 cents.

Mrs. Henry Harrington, Mrs. John C. Towne, Mrs. David W. Low.—*Committee.*

EXPERIMENTS WITH MANURES.

The Committee on Manure attended to the only entry made, and visited the onion bed of Mr. Horace F. Longfellow, of Byfield. Here we saw a fine crop of onions, large, both in size and yield, that had been raised on phosphate only, applied at the rate of one ton to the acre. The very interesting fact connected with the experiment, is, that the same kind of manuring has been followed, for five years in succession. The farming community are greatly indebted to Mr. Longfellow for this experiment, let the result have been what it may, for it is very rarely, that in this country, we have an opportunity to judge of the effect of commercial fertilizer that has been used continuous so long, on the same piece of ground, and it is a fair inference that the stock accumulated from the feedings from other manure, has been fully exhausted, and the results to be seen, are those obtained from the fertilizer only. In a letter, accompanying the report, Mr. Longfellow informed me, that on land where phosphate only, was used as a fertilizer, he had nearly 375 bushels of large potatoes to the acre. As doubtless, the wise managers of our winter meetings will have barn-yard manure and special fertilizers, up as one of the subjects, I will not here present some experiments I have made, this season, with various fertilizers. It will be wise here to make a single comment on Mr. Longfellow's experiment. Both potatoes and onions are potash loving crops, and yet, for years, Mr. L. raised the latter without feeding any large pro-

portion of potash; (I have not an analysis of the brand of phosphate, but the proportion of potash in all of them is small, for onions and potatoes). In considering, the farmers will do well to bear in mind that Mr. L.'s land contains a larger proportion of clay than is to be found on most of the farms of Essex County, and that all clays are rich in potash.

The Committee award Mr. Horace F. Longfellow, the premium of $15.

J. J. H. Gregory, *Chairman.*

STATEMENT OF HORACE F. LONGFELLOW.

To the Committee on "Experiments with Manures":—

Gentlemen:—We have, for many years, used various kinds of commercial fertilizers on our crops, and, in common with others, used them in addition to, and in connection with barn-yard manure, thinking its use of great benefit in promoting a rapid growth in the early part of the season, and thereby bringing the crop to maturity, earlier, and developing it more perfectly. In other words, we used it for its forcing qualities alone. But, becoming convinced that phosphates had *lasting*, as well as *forcing* qualities, and that a crop could be carried to maturity by its use alone—if an honest phosphate could be found, we, in 1879, selected an acre and a quarter of land, with soil of a dark, sandy clay loam, which had been under cultivation three years, treated it with phosphate alone, and sowed with onions. This experiment we have continued every year since, with a result interesting to others, convincing and satisfactory to ourselves.

Below, we give in detail, everything of interest and value connected with this experiment.

The land was broken up, in 1876—it had been in grass a dozen years previously—manured with seven cords barn-yard manure and planted with corn and potatoes. In 1877 the treatment and crop were the same. In 1878 it was dressed with ten cords of manure, and the crop was onions—172 bbls.

Now our experiment with phosphatic manure begins. In the *fall* of '78, the land was plowed as shallow as possible, not deeper than four inches, and in the spring of '79, 1600 lbs. per acre of Russell Coe's superphosphate was spread, broadcast, and harrowed in,—crop, 226 bbls. onions. 1880, treatment and crop the same, only the onions were of better quality. We cannot give the exact amount of crop this year, for, owing to a misunderstanding, they were mixed with others, during our absence, but there could not have been less than 226 bbls. Although the result was good, we were not satisfied with the appearence of Coe's, and changed to the "Standard superphosphate" which we have used ever since. In 1881, the treatment was the same, with the change in phosphates, noted above, the onions came up nicely, grew rapidly, and there was every indication of a very large crop, till the latter part of July, when we were visited by a violent hailstorm—your committee saw the traces of it, on our buildings, in September last—that nearly ruined them, result, 300 bushels. 1882, the treatment was the same, the remarkable drouth of that year, of course affected the crop, which was 400 bushels. The present year we increased the amount of phosphate to 2000 lbs. per acre, the other treatment being identical with the former years, and the result is 686 bushels of very nice onions.

By this statement we don't wish to be understood as advocating the use of commercial fertilizers, in preference to barnyard manure; rather than that we would only use it as a matter of necessity, when the compost heap fails, and then use it separately, and we honestly believe that the result will show the wisdom of such a course.

COMPARATIVE VALUE OF CROPS, ETC.

REPORT

OF THE COMMITTEE ON THE COMPARATIVE VALUE OF CROPS AS FOOD FOR CATTLE, ESPECIALLY NEAT STOCK, IN PRODUCING MILK AND BUTTER.

To the Trustees of the Essex Agricultural Society:—

Your Committee have waited until the last available moment for making up their report, hoping that we might receive a statement from some intelligent farmer, in conformity with the rules of the society, in competing for the premium of twenty-five dollars, which the society has so generously offered. But no such statement has been received by your committee, consequently, the most we can do in making our report, is to make such statements and suggestions as the facts will warrant, that have come to our knowledge from a very extensive correspondence with the farmers of the country, and especially our own county.

The question of the comparative value of different crops as food for cattle, especially neat stock, is one of the most important that can engage the attention of our farmers at the present time when the competition is so sharp in producing milk and butter, and when the margin of profit is so small, and when our success depends so largely upon our ability to furnish a nutritious fodder at a cheap rate, and not only in the production of milk and butter, but in the development and growth of our young stock and the fitting them for the stall. And yet it is one of the most difficult subjects to comprehend, and involves questions upon which there exists the widest difference of opinion, even among our most intelligent and practical stock raisers, and perhaps this should not be a matter of surprise when we take into the account the different objects to be secured, and the varying conditions under which we labor in securing those objects.

In producing butter, we need different stock from what we do

to produce milk or beef, and somewhat different food, and methods of feeding. If we desire the rapid growth of our young stock so as to fit them for the market at an early age we need a different system of feeding from what we do if we intend to keep them until they are fully matured and thoroughly fattened for the stall; and then it has been thought by some of our farmers that we need a different food for winter than we do for summer use; and then one man has a farm with a large range of pasturage while another farm has hardly any pasture at all. In one location our lands are worth five hundred dollars per acre, and in another location not more than twenty dollars per acre, with taxes and fencing to correspond; hence, any intelligent judgment must take into the account all of these different causes and conditions; for what is success for one may be defeat for many others.

But we think our most intelligent farmers are gradually coming to the conclusion that *green crops in some* form are better adapted to produce milk and butter and beef than any form of dry fodder now in use, and some of our farmers have succeeded admirably by soiling their cows in summer and feeding them principally *on roots* of some kind in winter; and there can be no donbt but that this system of feeding is both judicious and economical where land is very valuable and capable of producing the largest crops.

Until very recently the only green crops that could be made available for winter use were the root crops; and in some localities where the soil was adapted to the root culture, and good reliable fertilizers could be obtained, and at a moderately low price, very large and profitable crops of roots have been produced, and as a supplementary food this crop has given very general satisfaction. But it is not claimed that they are a perfect food in themselves.

Within the last ten years the attention of our farmers has been called to a new method of preserving green crops for winter use; we say new method, because although this method was very well understood in some of the countries across the

sea, it was comparatively unknown to us as a practical science, until very recently; but, although of recent development in our own country, it has successfully passed through the initial or experimental stage of development, and stands to-day upon as firm a basis as any one of the many departments of agricultural science. It is true that it has not reached the highest point of achievement claimed for it by its most sanguine friends, nor has it disappointed the hopes of its intelligent adherents, by fulfilling the prophecy of its earliest enemies, but it has fixed itself firmly upon the middle ground of economy and utility.

The principal objections raised against the method of preserving green crops by placing them in air-tight silos, for winter feeding, were as follows :—

First—That ensilage did not contain nutritious qualities enough to sustain animal life for any considerable length of time.

Second—That ensilage contained properties that were injurious to animals, especially their teeth.

Third—That ensilage imparted an unpleasant flavor to milk and butter, if fed to cows in any considerable quantity.

Fourth—That the cost of producing the crop would prevent its ever becoming a competing crop as food for cows.

Fifth—That the cost of building the silo, and the storing of the ensilage would place the whole business beyond the reach of the ordinary farmer.

Of these several objections so persistently urged at first, not one of them now remains in the mind of any intelligent farmer who has given the method a fair practical test.

In regard to the first objection, it has been demonstrated by the most rigid practical tests that you can make *beef* or butter or milk, or produce the most perfect physical development in young stock, on ensilage alone, and we do not know of but a very few domestic animals that will not eat it and thrive on it.

As to the second objection, in all of our very extensive cor-

respondence with more than one hundred farmers, who have fed ensilage made from corn, rye, clover, and apples mixed with clover, covering a period of seven years, not a single instance has come to our knowledge of the least possible harm resulting to a single animal from the use of ensilage.

As to the third objection, as to the milk or butter, containing or exhibiting an unpleasant odor, we have this to say: It is a well known fact, that the milk or butter, made from a cow partakes of the quality and character of her food, and if you change her food, the change in her product is immediately apparent. This is especially true when you change from English hay and corn-meal, to salt hay or turnips or cabbages. But the real question of any importance to us is, does ensilage give an unpleasant or harmful flavor or odor to the product of the animal fed on it? We think we have the best reasons for stating that it does not. One of the best chemists in this state has stated that the flavor of milk or butter made from good sound ensilage is nearer to that of June butter or milk than any other food; it is certainly very agreeable.

In regard to the fourth objection, the cost of producing the crops; this has been greatly reduced during the last five years, and while it may not be profitable to plough up a field that is now producing three tons of hay to the acre, it is still true that every farmer has lands in field or pasture that need improvement by cultivation, and it has been demonstrated that such lands when liberally manured, and thoroughly cultivated can be made to produce from thirty to fifty tons of ensilage corn, and in two years time leave the land in better condition than before the breaking up. We give you an example to show you what can be done by a rotation of crops; one of our young farmers ploughed up about two acres of pasture land in October and sowed it to winter rye, with a liberal dressing of Stockbridge fertilizer. On the first day of the next June he commenced harvesting and storing in his silo a very heavy crop of rye. He immediately ploughed up the same field and planted it with corn, southern white, and on the twentieth day

of September he commenced to fill his silo with as perfectly developed crop of ensilage corn as we have seen for several years, averaging full forty tons to the acre. On the first day of October the land was harrowed down with a Randall harrow, and given a liberal dressing of fertilizer. Then he brushed in his grass seed, and at this present writing the promise of a splendid crop of grass cannot be excelled in this county, with nearly a hundred tons of good ensilage securely stored in his silo for the coming winter.

From what we have learned from reliable sources, we have no doubt but that *corn*, *clover*, *rye, and oats* can be produced and stored at an expense of about three dollars per ton, and when we come to thoroughly understand the business, utilizing the most improved machinery, it will be produced for a less amount.

In regard to the fifth objection, the cost of building silos and storing ensilage. In regard to the silo, there is a wide difference of opinion, some farmers contending that a cheap wooden structure built entirely above ground, will answer the purpose perfectly notwithstanding the air may not be entirely expelled, and in some instances we have known very good results from this method. But as a rule we should not recommend the building of wooden silos in Essex County, where more durable material is so cheap and easy to be obtained.

The prime object to be gained in preserving ensilage perfectly, for an indefinite period of time, is the entire expulsion of air from the silo This cannot be done successfully unless you use a strongly-built, air-tight pit or silo, and your ensilage heavily weighted with stone or sand. We think the silo should be built underground as much as possible, so as to avoid the changes of the atmosphere, and it can thus be made more strong and durable, capable of resisting the great pressure caused by weighting.

Here in Essex County where stones are so cheap and easy of access, we should recommend the use of stones for the walls,

laid in cement, and having the walls and floor covered with a good smooth lining of cement.

But if stones are not easily accessible, you can put the cement directly on to the wall of earth without the use of stones at all. The largest and best silo in this county is constructed in this way, with a surface wall of brick to receive the roof. Such silos have several advantages over the wooden ones. They are more impervious to the air, are more easily filled, are more easily and securely weighted, will last a lifetime and consequently cost less in the end.

The cost of building such silos, varies in different localities, according to the price of labor and material. As a general rule, it will cost about one dollar for every ton's capacity; that is to say, a silo that will contain fifty tons of ensilage will cost about fifty dollars, exclusive of the roof, and where your silo is built in your barn cellar, it will need no roof. A larger silo can be built for a less proportionate amount, and silos should be constructed with compartments, each capable of holding from twenty-five to fifty tons, so that you can store different crops at different times, and when feeding out you do not expose but a small surface to the influence of the atmosphere.

As to the cost of storing ensilage, here we cannot arrive at any accurate estimate, the price of labor, and the facilities for transporting and cutting are so variable; but we find that the expense of storing ensilage has been greatly reduced within the last five years. We have known instances where the cost of storing ensilage has exceeded two dollars and a half per ton, but the past season, we have known of several instances where the entire cost of cutting and storing has been less than one dollar per ton, and the work of cutting was performed by horse power instead of steam power. A few years ago, it was thought that nothing but steam power would do the work, but it has been demonstrated that a good strong pair of horses, well trained for the work, with a good working power, can cut from fifty to sixty tons per day. By this method, our farmers

who wish to put in a small silo, holding from twenty to fifty tons, can store their ensilage as cheaply as those whose silos hold three hundred tons. And there can be no doubt but that in a few years, we shall be able to produce and store ensilage at a cost not exceeding two dollars per ton. When this is an accomplished fact, then *ensilage* whether made of corn, clover, or winter rye, will stand at the head of the list of crops as food for cattle, especially neat stock.

Judging from the rapid increase in its use, it must be gaining in favor among our most intelligent farmers. Six years ago, there was not one well built silo in our county, now we have thirty-five, ranging in capacity from twenty tons to three hundred tons, the large ones being divided into four bins or compartments, and this is in a county that cannot be called an agricultural county ; and yet, there is much to learn in regard to this industry of producing and preserving green crops for winter use. And, perhaps, in nothing more than in regard to the best crops to raise, the time to plant, and the time to harvest the same. We will give you one or two examples that have come to our notice in our investigations, one in a neighboring state.

A field of two acres, was planted with common corn of the sweet variety, the rows were planted three feet apart, the plants were left about six inches apart, in the drills. The crop was hoed twice, and was very clear from weeds ; at harvest time, when the ensilage was stored and thoroughly compressed, there were nearly forty tons of ensilage, or about twenty tons to the acre ; and allowing to the superior quality of the ensilage, it is regarded as an entire success, our informant claiming that one ton of ensilage, made from sweet corn is better than one and a half tons made from any of the other varieties, in which opinion we fully concur. We expect to hear from this gentleman again next season.

Another example was as follows : A field of ten acres was planted with common corn, something like Longfellow's seed

corn. It was planted in drills, four feet apart, the plants were left six inches apart in the drills. This crop was thoroughly cultivated, and left standing until the large ears of corn were completely filled out, so as to make good sound corn. Then all the full ears were harvested, by the men passing through the rows, with baskets, leaving all the immature ears on their stalks. Then the whole crop was harvested and cut one inch long, and packed into the silo, and heavily weighted. It did not shrink as much by one-third as the early cut ensilage, but notwithstanding the leaves of the corn were turned in color, and some of them were quite dry, it was the best pit of ensilage that we have ever seen, and in all nutritive qualities, it was unsurpassed. We are unable to state the number of bushels of sound corn that were harvested, but have been assured that the corn harvested would more than pay the entire expense of producing and harvesting the whole crop, consequently there was two hundred tons, by actual measurement, of good, rich ensilage, as net profit on the crop. We expect to visit this gentleman's farm, next season, to examine the details of another experiment, in the same line.

In closing our report, we would say to the farmers of the county, do not be deceived by any visionary theory or theorist, in this or any other matter that pertains to your useful and honorable calling. Make haste slowly. In our calling, it is better to be conservative than to be radical. If there is any real merit in this system of preserving green crops for winter use, we shall know it, for it is in the hands of men that will go to the bottom facts before they leave it, and if it has no real merit, we shall know that, for we are riding no hobby. We are after the truth in this matter, and are already satisfied that it lays somewhere between the extremes of assumption.

But as yet, we have not learned of one entire failure, where an intelligent experiment has been tried, and if this is true of the opening chapter of its history, certainly we have much to

hope for, when we know more of this new method, and hence be able to avoid many of the errors into which we have fallen in the past, especially in regard to the details of our work. It is, we think, an established fact, that in the near future, ensilage will be comparatively the best crop for food for cattle, especially neat stock. Respectfully submitted,

O. S. Butler, *for the Committee.*

GRAIN CROPS.

The Committee on Grain Crops report but one entry for premium; doubtless, the cause of this is attributable, in a great measure, to the heavy storms of wind and rain, occurring on the fourth and fifth of July, which prostrated alike all small grains, and all expectations of a premium.

The Committee, on the twelfth of July, visited the farm of Capt. Richard Newell, of West Newbury, and viewed his crop of rye (which seems to have survived the storms better, generally, than others), and pronounced it good and well merited the premium, but as the quantity of land entered in his very full statement (which is annexed), did not come within the rules of the Society, they can only *recommend* the premium of $10.

It was a matter of regret, that, through a little informality, the committee was only represented by Mr. E. G. Nason and the chairman. Respectfully submitted,

N. Little, jr., *for the Committee.*

STATEMENT OF R. NEWELL.

The land on which the crop which I offer for premium grew, was broken up in the spring of 1882, seven cords of manure spread on and harrowed in and planted with potatoes. The crop was well cultivated, but owing to the drouth, the yield was rather light; 140 bushels of potatoes were harvested,

of which about 90 were merchantable. The crop was harvested the first week of September, the land ploughed and sowed at once to Winter Rye with one bushel of seed. 400 lbs. of Crocker's ammoniated bone phosphate spread on the ground and smoothed over.

The crop looked finely all the spring and early summer, till the heavy showers of the 4th and 5th of July, which lodged it badly, and when your committee visited it, on July 12th, much of it was down, and no doubt the crop was somewhat diminished on that account.

The crop was reaped July 18th, and put in the barn July 21st, and weighed 7265 lbs. Thrashed and winnowed, Sept. 29th, and weighed the grain. Had 2550 lbs. of Rye, of fine quality, or 45 bushels and 30 lbs., being at the rate of over 57 bushels, per acre, and at least two tons of straw.

ACCOUNT.

	Dr.
Preparing ground,	5.00
Seed (1 bush.), and sowing,	1.50
400 lbs. Phosphate, and sowing,	10.00
Reaping and binding,	7.00
Weighing and housing,	3.50
Thrashing and winnowing,	8.50
Use of land,	6.00
Total cost,	$41.50

	Cr.
45 bush. 30 lbs. Rye at 85 cts.,	38.70
2 tons Straw at $18.00,	36.00
Total value,	74.70
	41.50
Profit on Crop,	$33.20

I hereby certify that I measured the land on which the above Crop of Rye was grown and that it contained 142 square rods and no more. Also that I weighed the grain and that there was 2550 lbs.

RICHARD NEWELL.

WEST NEWBURY, Oct. 5, 1883.

ROOT CROPS.

The Committee, intrusted with the duty of viewing the *Root Crops* entered for the Society's premiums, and for making the awards on the same, acknowledge the receipt of eleven entries, from eight competitors, as follows, viz. :—

Aaron Low, of Essex, enters Squashes and Potatoes.
Horace F. Longfellow, of Newbury, Onions and Potatoes.
Daniel Carlton, of North Andover, Onions and Cabbages.
J. J. H. Gregory, of Marblehead, Onions.
S. F. Newman, of Newbury, Squashes.
J. B. Knight, of Newbury, Potatoes.
J. W. Blodgett, of E. Saugus, Turnip Beets.
W. D. Huntington, of Lynn, Wurtzels.

After a thorough examination of the crops, and noting the general conditions under which they were produced, and also a careful comparison of the accompanying statements, we have agreed on submitting for your approval, the following awards, viz.:—

To Aaron Low, of Essex, for crop of Hybrid Squash, the premium of $10.00.

To Daniel Carlton, of North Andover, for crop of Cabbages, the premium of $10.00.

To J. W. Blodgett, of East Saugus, on crop of Turnip Beets, the premium of $10.00.

To Horace F. Longfellow, of Newbury, on crop of Danvers Onions, the premium of $10.00.

To Horace F. Longfellow, of Newbury, on crop of Potatoes, on lot designated in statement, as Lot No. 2, the premium of $10.00.

We have made no award on crop of Wurtzels, entered by Mr. Huntington, of Lynn, as no statement has been received —although the same were considered worthy a premium— would recommend that he should be allowed the premium, if his statement has been delayed in transit. We are sorry to state that no statement was received from Mr. Knight, of Newbury.

In return for the courtesy and kindly generosity manifested toward your Chairman, in again calling him to duty, as Root Inspector, I feel, under the circumstances, compelled to, at least, *partially* account for the time thus occupied.

On Sept. 13th, accompanied by Mr. Frank Newhall, of Lynnfield, the tour of inspection commenced, by visiting the *Essex Seedsman*, whose crops were on his farm at Manchester, and were raised on the double-crop or mixed system, the Squashes being grown among Seed Peas, and the Potatoes among Squashes, as described by the statements of Mr. Low, and from appearances demonstrates the feasibility of this method of alternating a few rows of different varieties on the same plot, and particularly so, in carrying out his system of experiments in the use of different kinds of fertilizers, and their adaptability to special crops, the result of which will, no doubt, be given for the full benefit of the Society, in due time.

To one who was not *already* convinced of the superiority of the Hybrid Squash as a leading variety, a *view* of his crop, and a *test* of their quality, would have been a convincing argument.

His Potatoes were of new varieties, recently put out, and bid fair to be placed in the front rank of the early varieties— one of the most prominent being the Early Sunrise, which showed remarkable vigor and productiveness.

Being reinforced by Mr. Randall, our next visit was to J. B. Knight, of Newbury, whose exhibit of Potatoes was on the same field on which he has grown this crop for several years, and were considered by the committee a good crop, although slightly affected by the wire worm. Mr. Knight still clings to the method of hill culture and has produced fine crops, although this method, in our opinion, is not as practicable for cultivating on a *large* scale, as drill culture; and, moreover, we favor drill culture for a great variety of crops, and thereby increase the yield, and by the use of the Horse Hoe (which is best adapted to drilling), greatly diminish the labor.

Through the courtesy of Mr. Randall we were conveyed to the head of tide water, better known as Longfellow's Heights, Byfield.

Some benefactor, in the form of Nature, or some (other), fellow, seems to unite with this Longfellow, in enabling him to produce the best of its kind, on his fertile fields, as the crops of Onions and Potatoes were of extra quality and the yield ditto. He also seems to be one of those who have made the use of commercial fertilizers a success, as will be seen by statement; the Onions were grown on fertilizer, and is the fifth consecutive year thus treated. Further comment on his crops is unnecessary, as his entry on experiments with manures will be fully reported by the chairman of that committee with whom I had the pleasure of serving.

On the banks of the River Parker, we again congregated, and there met a new man (S. F. Newman), who was desirous of showing the result of his venture in raising Squashes among his Potatoes, and we pronounced it a success. They were entered as *high bred*, and they undoubtedly were, as they resembled the *Hybrid* of our own production. The *achievements* of this farmer were abundantly manifest on every side, even to his household.

At Daniel Carlton's, we next assembled, to examine his Onions and Cabbages. The Onions were very good, uniform

and well ripened, and were what might be termed a premium crop, under less severe competition. The Cabbages, although not large, were very good for this season, the drought proving an antagonist to the cabbage crop, in most sections of the county.

Our next halt was at J. J. H. Gregory's, at Middleton. Under the guidance of his foreman, Mr. Carlton, we spent several hours among his crops and seed-rooms, the magnitude of which I will not endeavor to describe, giving employment on this farm, to nearly fifty men, in the busiest of the season.

His entry of Onions were of the Red variety, and very handsome, although not as thick as some, fully made up this deficiency in their extra size. While there is one drawback against growing this variety, viz.:—their not meeting with quite as ready sale as the Yellow, yet being a strong, vigorous grower, and a much more certain cropper on new land, we consider them deserving of more extended cultivation and introduction always leading in quality, when tried in comparison with other varieties. One noticeable feature among all his crops was the clean cultivation—indicating the ability, activity and taste, *characteristics* of his foreman.

That *Lynn* endeavors to "Beet" the list of entries, was evident by the crop of Wurtzels shown us by Huntington, whose method of irrigation by flowing the land, from water from a convenient stream, had proved quite a success, and will be tried on a more extended scale, in future.

Agreed that J. W. Blodgett is well equipped to "Beet" Boston Market with this product of nearly 1000 bushels of Turnip Beets, of extra quality. It is no surprise, to those of us who are acquainted with Mr. B., that this committee is annually solicited to inspect some of the numerous crops, so abundantly and understandingly grown, by him, who may well be termed a general farmer. Although we have listened to discussions on defining the literal meaning of this term "general farmer," our observations on this visit, convinced us that

its true meaning was, "he who makes a *specialty* of every branch pertaining to the business."

Your Committee who reported for duty (we gently remind those who *did not* that they are not only liable to censure, but stand in danger of having their names stricken from the pay-roll of this committee), found it quite a delicate task to make the awards in some classes, where all were so well deserving.

The aim of the Society is to induce the farmer to endeavor to solve, by careful experiment, the most satisfactory *method* of *economical* production, as well as how to produce the largest yield;— although, as a rule, the greater the product, the greater the net profit, we find some deviation from the rule, but note them as exceptions of unfrequent occurrence, and our experience and observations have convinced us that high cultivation, in its broadest sense, will render the most satisfactory *balance sheet*.

The statements rendered—which are appended to this report—show that our system of production is improving, and also indicates that our farmers are striving to establish, by their continued experiments, some method or line of proceedure, by which they can conduct the business, and reduce the chances of failure from the many causes that occur, by due care and forethought (two essential requisites for a farmer to possess, to be successful).

We are convinced that our Society can in no way more enhance the beneficial influence it is yearly exerting, on not only its members, but all classes (its benefits extending beyond the limits of our County and State), than by *increasing* the expenditure of the liberal premiums, which it is already offering, for the purpose of ascertaining, by careful experiment, the most practical method of producing those crops which our home markets demand.

We should feel encouraged that so many have competed, this year, for the premiums offered, and finding some crops so well worthy a premium, that we could not bestow (having but

one at our disposal), would suggest the offering of a second premium, or a limited sum in gratuities ;—for while it is considered a profitable expenditure, for the Society to offer several premiums, on some exhibitions, at our fair, where only a few specimens are exhibited, which may, oftentimes, be selected, where the principal portion of the crop might be far below the average ; therefore, for the encouragement of still more worthy crops, your committee recommend the offering of a second premium, in the future, on all crops in this class, feeling that with the accompanying statement, each competitor is required to make, tends toward improving the educational value of our Yearly Transactions.

It is a fact worthy of note, that among all the occupations of mankind, there is none in which a greater mutual feeling exists towards one another ; it being the rule, and not the exception, that farmers are ever ready to give their experience of their successes, in the different branches of their occupation, for the benefit of their fellow-men.

We note, with pleasure, an increasing interest manifested in our county, in the direction of experimenting by hybridization for the purpose of improving many varieties of vegetables, by endeavoring to harmonize the good qualities of two or more varieties and combine them in one ; thereby, producing a variety, superior, in many respects, to the original. Our home seedsmen are alive to this branch of the business, carefully catering to our wants,—being ever mindful of their own reward and future prosperity. Essex county may well be proud of the achievements made in this line, in the improved varieties of Cabbages, Tomatoes, Sweet Corn and Squashes, which have had their origin in the county, in the last few years, and which are doing credit to their producer. Among the many that might be spoken of, in the highest praise, are the Essex Hybrid Squash, Early Marblehead Sweet Corn, Essex Hybrid Tomato, and many of the standard Seedling Potatoes, have been originated and perfected here.

Another source of education to the *root producer* may be found in the Institute meetings of recent origin, that are frequently held by our Agricultural Societies. The discussions are the means of arousing farmers to the importance of testing, by careful experiment and account, the comparative merits on various crops and soils of the different commercial fertilizers, the use of which are yearly becoming a necessity to most farmers of this section. The discussions, on many subjects, incite people to sometimes test, what at first seems others' folly, but which, oftentimes, amply repays them, by the benefits derived. While a growing interest is manifested by the large attendance to *our* Society Institutes, we yet find many who are unaware of the benefits and pleasure to be derived from them.

The liberal premiums offered by our Society, to solve, by five yearly consecutive experiments, many problems relative to raising Potatoes,—indicates the progressive spirit which prevails among us, to perfect, and if possible, completely establish, many hitherto uncertain points, which have a bearing toward increasing the productiveness of this most valuable home product.

That this is an age of progress, is plainly discerned in the agricultural, as well as mechanical field, and the grandeur of our calling is, that changes are daily going on about us, and that nature lends a willing hand, that harmonizes with our best efforts toward improvement.

The farmers in this section of New England have met with serious drawbacks by the protracted droughts of the past two seasons; and its disastrous effects on many crops, suggests the importance and practicability of bringing under cultivation many tracts of meadow and swamp lands, which abound among us, and which are, in many sections, almost valueless in their present condition ; but, by a small expenditure, can, by drainage, be brought under subjection and prove doubly valuable to some of our elevated lands, for the production of grass, and, in fact, most *root* crops ; producing larger crops, with a smaller outlay in manures.

To produce the best crops, with the least expenditure, is the universal aim. To acquire this, we must endeavor to enrich our soils. The problem, then, is, to solve some method by which we can enrich or increase their fertility, after the removal of the crop.

I am well satisfied of the economy, toward accomplishing this end, by a more extended culture of the rye crop, after many summer vegetables. The advantages by growing rye are many ; it can be put to so many profitable uses. Its great value for fodder, when green, and more particularly when cured for feeding purposes ; and it yields a greater net profit, if procured for its grain, than any other cereal produced in this section ; while the stubble ploughed under, in summer, as soon as the crop is removed, has in a series of years, proved its great fertilizing and enlivening properties, on soils that have become baked, lumpy and lifeless, as is frequently the case where land is kept under cultivation for many years, answering, in a great degree, the object attained, by seeding down to grass, of restoring the animated life, necessary for the growth of some crops in their greatest perfection. This course pursued, will allow of the reproduction of the same crop, more frequently, and saves the necessity of rotating annually, which is sometimes inconvenient, although with some crops, very important.

I have in mind, an experiment tried in our vicinity the past season, of ploughing in a crop of rye for manure, when almost full grown, which is reported to have proved a great success. Another advantage apparent by the method of ploughing as soon as convenient after the removal of a vegetable crop, is, in the destruction of many noxious weeds and seeds, which germinate, but fail to reproduce mature seed.

Of the multitude of trades and vocations, there is none in which so great difficulty exists in procuring reliable help, as among farmers, and, by reason of this impossibility to obtain laborers, for farm work, as skilful in performing their duties,

as can be obtained for the pursuit of other branches of business, it, therefore, requires a great deal of forethought, on the part of a manager of a farm where varied crops are produced; and while the introduction of vast varieties of new implements and machines for lessening the labors of the farmer, has greatly revolutionized the whole system of farming, so that many crops that formerly required hand culture, can now be cultivated almost wholly, by horse implements, and notwithstanding the vast benefits realized from their introduction, it, nevertheless, has had a *tendency* toward leading us one step in the wrong direction, viz.:—endeavoring to till more acres than we properly manure.

Let us bear in mind the fact, that the *best* grades will always find a ready market, however overstocked or plentiful the crop may be. With the yearly increasing demand for the best products, there are many reasons why we should endeavor to excel; and one inducement is, that we may ably defy the increased competition that has sprung up in recent years, in sections once remote, but the increased railroad facilities have made it possible for those in neighboring states, to place their fruits and *roots* in our markets, in such a perfect state of preservation, as to come in direct opposition and competition with our best home endeavors.

It is a trite saying, that, "it is an ill wind that blows nobody any good," so that if we stand endangered by the increased competition in our markets, and the diminution in the ranks of our skilled and most reliable farm laborers, who are seeking employment at more remunerative trades, we must endeavor to simplify our methods and utilize, to a still greater extent, the labors of the horse.

We have learned that the labor required for the cultivation of any field crop is much less on land under a high state of cultivation. There are but a few species of *roots* but what revel in a thick foliage, and at the earliest stage of its growth that this can be obtained, the greater the chance of success,

and the least annoyance from weeds, and also the pests that follow in the wake of a drought, in the form of myriads of insects, that frequently almost annihilate a weakly crop, but which have little effect on a vigorous growth.

While from seed-time to harvest, the farmer must ever be on the alert, yet there is, probably, no portion of the season's work that needs the exercise of more thought and vigilant care to insure success than the covering of seeds,—there is no *rule* as reliable as the *eye* of an *experienced* workman, who can detect by the condition and nature of the soil he is working, the proper depth to sow; undoubtedly, much seed is sown at a depth so great in spring-time, that its vitality is so impaired, that the young plant struggles for some time to regain its wasted strength, spent in its endeavor to reach the surface.

It is well known, that the potato revels in a cool, damp soil; now to meet its requirements on naturally dry, light land, we must plant in as deep furrows as seems consistent to meet its wants, yet remembering the evil of too deep covering. I should favor deep furrowing, but would cover in only a portion of the sides of the furrow, under this method of *planting;* the use of the Thomas harrow and bush, and later, the horse hoe, will do away with all hand hoeing; in fact, the same method can well be pursued with many *Root* crops, and the expense greatly reduced; thus, by keeping up with the times, we, as Essex county farmers, can defy competition.

Respectfully submitted by,

Asa T. Newhall, *Chairman.*

Frank Newhall, Joseph E. Randall, Geo. C. Foster, *Com.*

STATEMENT OF AARON LOW.

Statement of Potato and Squash Crop.

The piece of land on which the above crops were grown

measures 165 rods. In 1882, it was ploughed in July after the grass was cut. It is a very light, sandy loam. One-half of the piece was manured with a shovel of manure in the hill, and set out to cabbages on the 20th day of July. The other half was sown to yellow Swede turnips on the 10th day of July, and manured with Stockbridge Root manure in the drill, well mixed with the soil. Owing to the extreme dry weather that immediately followed, and continued until September, the crop of each was rather light. Last spring, the piece was ploughed in April. On the half that was manured with Stockbridge, the year previous, we applied 3½ cords of stable manure and ploughed it in. The half that had stable manure in 1882, had only fertilizer this year, applied in the drill at the rate of 900 pounds to the acre. The whole was planted to potatoes on the 22d day of April, omitting every third row, to be planted in Hybrid Squash. The potatoes were cut to two eyes, and dropped about fifteen inches apart in the drill—drills three feet apart. The rows were all covered with the Planet Jr. Horse Hoe.

The potatoes came out evenly, and were hoed twice with the Planet Jr. Horse Hoe, and very little hand-work was done to the piece.

The squashes were planted on the fifteenth day of June; a handful of vine manure applied to each hill. Squashes were hoed twice.

The cost of crops, and value, are as follows :—

To 3½ cords stable manure, at $6.50,	$22 75
To 900 lbs. fertilizer,	18 00
To planting and cost of seed,	12 00
To horse hoeing twice,	5 00
To Paris Green and applying,	3 00
To digging potatoes,	15 00
To planting squashes and seed,	4 00
To hoeing squashes,	4 00
To harvesting squashes,	5 00
	$88 75

Value of the Two Crops.

To 218 bushels of Sunrise potatoes,	$208 00
To 6½ tons of Hybrid squash,	162 00
	$380 00

AARON LOW.

This is to certify that I have helped raise and harvest the above crops, and the above statements are correct.

JOHN H. KINNEY.

A. T. NEWHALL, ESQ.,

Dear Sir:—The following is a statement of the crop of squashes grown on the American Wonder Pea piece, as a second crop.

The land measures ninety rods. Was ploughed on the — day of May, and manured with four cords of stable manure, ploughed in. Three-quarters of a bushel of Wonder Peas was sown with a Planet Jr. Seed Sower, in rows eighteen inches apart, omitting every seventh row to plant squashes. The peas were run through with a wheel hoe, and weeded twice.

The squashes were planted on the 26th of June, with a handful of Stockbridge Vine manure, mixed in each hill. They came up well, grew rapidly, and were hoed twice.

The peas were all up and cleared off by the 20th of August. The product was twelve bushels of very handsome seed peas. The squashes were harvested the first week in October, and weighed 6 tons and 12 lbs.

The following is the cost of the two crops:—

To 4 cords stable manure,	$26 00
To 100 pounds Stockbridge Vine manure,	3 00
To ploughing and smoothing ground,	3 00
To ¾ bushel Wonder Peas,	9 00
Amount carried forward,	41 00

Amount brought forward,	41 00
To sowing peas with seed sower,	1 00
To hoeing and weeding twice,	10 00
To gathering and threshing,	5 00
To planting squashes, and cost of seed,	3 50
To hoeing squashes twice,	5 00
To gathering squashes,	5 00
	$70 50

To value of the Two Crops.

To 12 bushels Wonder Peas, at $6.00,	$ 72 00
To 6 tons squashes, at $25,	150 00
	$222 00
	70 50
	$152 50

AARON LOW.

This is to certify that I have helped raise and harvest the above crops, and that the above statements are correct.

JOHN H. KINNEY.

STATEMENT OF DANIEL CARLETON.

The half acre of Cabbages entered by me, were raised on a piece of land that had been in grass ten years, and had received no manure during that time. The soil is a dark loam, with a rocky subsoil. Last spring, nine loads of coarse cow manure were spread upon the sod and ploughed under, to the depth of about six inches; the land was then harrowed, and afterwards furrowed, making the rows about three and a half feet apart. About two hundred pounds of Cumberland Phosphate were scattered in the furrows and covered by sliding a hoe along the drills. One half pound of Fottler cabbage seed

was then sown, by using a seed sower. The seed was sown the 15th of May. After the plants were large enough to be seen, the horse hoe was run between the rows, once a week, until the plants were too large to admit of cultivation. The piece was hoed by hand, three times. By sowing with the machine, the plants stood in a narrow, straight row, which made the work of hoeing much less than it would have been had the seed been scattered by hand. The plants came up very thickly, and were mostly thinned by farmers who wanted the plants to transplant. The plants were left to stand about twenty inches apart in the row. The crop suffered from the severe drought, and would not be considered an extra one, in an ordinary season. I have sold at wholesale, in Lawrence, six tons and two hundred and ninety pounds of cabbage, for $165.16. I have gathered, to-day, from the piece, 1383 cabbages, which, at three cents per head, are worth $41.49 ; making total value of crop, exclusive of fodder, $206.65.

The cost of the crop is as follows :—

Plowing and preparing land,	6.50
Seed and sowing,	2.50
Cultivating and hoeing,	15.00
200 lbs. Phosphate,	4.00
Value of manure, when spread,	27.00
Marketing,	20.50
Int. on land,	3.00
Cost of gathering crop, balanced by value of fodder.	———
Total cost,	$78.50

STATEMENT OF J. W. BLODGETT.

The following is the account of my beet crop entered for premium :—

The land on which the beets were grown, consists of a black loam with a sandy subsoil. The crop grown on this land, season of 1882, was potatoes, manured in the drill at the rate of about six or seven cords to the acre.

This land was manured with eight cords to the acre, of stable manure, spread broadcast, and plowed in the last of May, 1883. It was then thoroughly pulverized by harrowing with a disc harrow, and the Thomas smoothing harrow, and raked with hand rakes. The first of June, sowed ten pounds of Dewing's turnip beet seed, in rows fifteen inches apart. When the plants were of suitable size, the weeds were cut with a scuffle hoe, and the plants were weeded, and thinned to about three inches apart. Harvested the last of October, 948 bushels.

STATEMENT.

To use of land,	15 00
To 11½ cords of manure,	80 50
To ploughing, harrowing and raking,	21 00
To ten pounds of seed,	5 00
To sowing seed,	3 00
To weeding and thinning,	45 00
To harvesting,	37 64
	$207 14

East Saugus, Oct. 31, 1883.

This certifies that I have measured a piece of land for J. W. Blodgett, containing one acre, sixty-six rods, and forty-six feet, on which were grown nine hundred and forty-eight bushels of beets. George H. Pearson.

STATEMENT OF H. F. LONGFELLOW.

Below I give you a statement of the method of culture and crop of two fields of potatoes, planted and cultivated under entirely different circumstances. I will designate them as lots No. 1 and 2, so that your committee may remember them in the order they were visited. No. 1 was broken up last spring and a heavy coat, about 10 cords per acre, of fine old barn-yard manure was spread broadcast, and thoroughly harrowed in

with a Randall harrow. The last week in May, the potatoes, Clark's No. 1, were planted in hills 3 feet and 8 inches apart, each way. 500 lbs. Standard phosphate per acre, was also used in the hill. It was seeded heavy, not less than six eyes to the hill. Used the Thompson horse hoe, and only two days labor on the acre from planting to digging. Mr. Joseph E. Randall, of your committee, selected 9 square rods, which proved to be hardly up to the average of the piece. On these 9 rods there were 16 bushels of merchantable potatoes and an immense number of small ones, viz.:—5½ bushels. Total amount of potatoes raised on the 9 square rods, 21½ bushels, or at the rate of 382 bushels to the acre.

Lot No. 2 has been under cultivation five years. Crops in '81 and '82, onions, and treated both years with 1600 lbs. phosphate to the acre, and nothing else. Last fall it was ploughed five inches deep, and in the spring was well harrowed and then furrowed with the horse hoe, one way, not quite three feet. 1000 lbs. Standard phosphate per acre, was then strewn in the furrows and brushed over. The potatoes were then dropped the first week in May, about fifteen inches apart and covered with the horse hoe, the idea being to raise them with as little hand labor as possible. The hand hoe was used only a very little, the horses doing almost all the work. The potato bugs raged, but Paris Green and "eternal vigilance" beat them. Mr. Randall selected here, 6 square rods—which proved to be a *little* above the average of the piece. On these 6 rods the yield was 14 bushels of merchantable and 1¾ bushels small and scaly potatoes, or at the rate of 406⅔ bushels per acre, if I mistake not.

There were three different varieties on this piece,—" Clark's No. 1," "Beauty of Hebron," and the "White Elephant." Clark's No. 1 and the Beauty of Hebron produced three times as many small potatoes as the White Elephant, otherwise, the difference in the yield was imperceptible.

Cost of Potato crop No. 1, one-half acre :—	
Ploughing,	1.50
Manure and spreading the same,	40.00
Phosphate, 250 lbs.,	5.00
Harrowing and marking,	2.00
Seed, 4 bushels, at 75 cts.,	3.00
Planting,	2.25
Cultivating and hoeing,	3.50
Paris Green and labor,	1.00
Digging and harvesting,	6.00
	$64.25
Interest and taxes,	3.00
	$67.25

Cost of Potato crop No. 2, one-half acre :—	
Ploughing, harrowing and furrowing,	2.00
Phosphate, 500 lbs.,	10.00
2½ bushels "White Elephants" at $1.00,	2.50
2 bushels " Clark's No. 1," at 75 cts.,	1.50
½ bushel " Beauty of Hebron," at $1.00,	.50
Planting, cultivating and hoeing,	3.50
Harvesting,	7.00
Paris Green and labor,	1.00
	$28.00
Interest and taxes,	3.00
	$31.00

The difference in the cost of cultivation of the potatoes, is, of course, in the manner of cultivation. The difference in the cost of the manure and phosphate is very perceptible, and the question at once arises, whether one-half of the manure might not be charged back to the land ; also, what proportion, if any, of the phosphate should be charged back.

STATEMENT OF HORACE F. LONGFELLOW.

I herewith transmit my statements regarding Onion and Potato crops. The land—one-half acre—on which the onions were raised, that I entered for the Society's premium, is a part of the piece that I entered as an "experiment with manures," and has been manured with nothing but Phosphate, for the last five years; the two first years, with Russell Coe's, and the last three, with the "Standard." It has invariably been ploughed to the depth of four inches, in the *Fall*, and in the Spring, the Phosphate sowed broadcast, at the rate of 1600 lbs. per acre, until the present year, when 2000 lbs. was applied and harrowed in. The seed used, was raised by the well known onion raiser, Mr. Geo. A. Randall, of Newbury, and was sowed on the 1st day of May, at the rate of four lbs. per acre. On the other part of the bed, seed raised in Peabody was used. The Peabody onions were some *two weeks earlier*, but were not nearly *so prolific* as the Randall seed. The rows were the usual distance apart—14 inches—and the cultivation was *thorough*. We have just finished topping them and have 364 baskets of fine, well ripened onions; 10 of the baskets were weighed, and all but one basket overran a bushel from 1 to 3 pounds.

The result is not up to the committee's estimate, but still is a good crop, all things considered. I enclose a certificate of the measurement of the land, by Mr. Wm. H. Osgood, a competent surveyor.

It is an even question with me, whether a larger amount of Phosphate could be used profitably. I think we shall slightly increase the amount next year, on a part of the bed. In this statement I have endeavored to be very accurate, for I consider the Phosphate question one of vital importance to all farmers located at a distance from large towns.

ONIONS, ONE-HALF ACRE.

Ploughing,	1.00
Sowing Phosphate,	.50
Harrowing and Smoothing,	1.00
Sowing onions,	.75
Hoeing,	5.75
Weeding,	15.00
Pulling,	1.50
Topping and harvesting,	12.25
	$37.75
½ ton Phosphate,	20.00
2 lbs. Onion seed, at $1.75,	3.50
	$61.25
Interest and taxes,	3.00
	$64.25

The onions were *hoed out*—not pulled—with a wheel hoe, and the cost of pulling thus reduced one half. At your suggestion, 4 rows were raked into 1, but I did not see that the tops rotted any better than they did when spread evenly over the ground. The tops were so heavy that we were obliged to cut them all, and this of course, made extra expense.

To whom it may concern:—

This certifies that I have, by order of Mr. Horace F. Longfellow, this day measured and staked off one-half (½), acre of Danvers Yellow Onions, grown by him, on his farm, in this place, and designed to compete for the premium offered by the Essex Agricultural Society.

William H. Osgood.

South Byfield, Essex Co., Mass., Sept. 24, 1883.

UNDERDRAINING LAND.

Your committee, consisting of George W. Chadwick, Joseph How, Horace C. Ware, George G. Creamer and T. C. Thurlow, had but one application for premium—viz.: that of William W. Perkins, of Newbury. Accordingly, in September, all the members (excepting Mr. Ware, who was unable to be present), met with Mr. Perkins, and after looking over the land very carefully, and hearing Mr. Perkins' statement, agreed to award to him the first premium of fifteen dollars. Appended will be found Mr. Perkins' statement. We consider it a very good, economical job, but should differ with him in some slight particulars. Mr. Perkins also furnished us with a carefully drawn plan, from which it appears there were two main ditches, nearly parallel, about 280 feet apart, dug through the middle of the field; in these, three inch tile were used, and there were running into them thirty-one *lateral* ditches, varying in length from 175 to 325 feet, in which were laid two-inch tile. These lateral ditches were from 35 to 50 feet apart—through the lowest ground about 35 feet, while on higher and dryer land, 40 to 50 feet. The two main ditches, with all the laterals connected, then empty into another ditch 558 feet long, in which is laid four-inch tile. Nearly all of this last ditch was through a pasture, and added considerably to the cost of draining the field; the land in the vicinity being so nearly level, it was impossible to find an outlet, without going a long distance. Another thing should be taken into the account; Mr. Perkins in draining this field of six acres, has really drained more or less, *all the land adjoining*, so that the actual cost per acre, for draining, is much less than he computes it? We cannot but hope that ere long many of his neighbors who are similarly situated, will go and do likewise. Mr. Perkins considers that he is paid in this year's crop, for all the expense of draining.

In regard to the importance of underdraining generally, your committee are fully agreed. There is on nearly every farm some piece of land—perhaps it may be a natural hollow,

near the buildings, where the water is dammed in for a part of the season, by higher land, where the wash and dry leaves have accumulated for years; such a piece is eminently suited for underdraining. Sometimes by digging and maintaining a large open ditch through this high land, into which other covered ditches might be run, a natural outlet would be formed, and thus secure the most perfect drainage, at a small expense. This open ditch should be dug quite wide at the top, narrowing down gradually to the bottom, and should be looked after every year, keeping it a little deeper than the drains that run into it. Oftentimes for grass, surface drains can be run into this open ditch, made by plowing the land into beds, which will answer a very good purpose; but for all hoed crops, especially where it is desirable to work the land early—thorough underdraining would be advisable, where the land is damp enough to require it. This would apply particularly to land near a good market, where manure can easily be obtained, and extra labor secured if necessary.

Underdraining cannot now be considered a doubtful experiment. Millions of dollars have been spent for this purpose in Europe, and in portions of this country, and still the work goes on.

As to the best material to be used, there may be some doubt. Possibly stones may be used to advantage in some locations; or logs of wood with holes running through them lengthwise; or three strips of boards, nailed together in a triangular form, and covered in the bottom of a ditch, have been known to do good work for many years; but where tile can be obtained as cheaply as it can in this vicinity, there is no doubt but it is every way the best.

The writer of this has practised underdraining with tile, on a small scale, for the last twenty years; and though always he has been satisfied with the result, thinks he has learned something every time, and has never before done a better job than the one he has just finished, viz., that of laying with his own

hands over 1800 feet of tile, on less than an acre of land at a cost of about $175.00; and at this late date (for writing a report), Dec. 10th—stiff and sore with rheumatism, from having worked in frozen ditches—he is happy to give his experience, gratuitously, to the public, hoping to aid some fellow-laborer by his success, as well as his mistakes. This article is not intended to be a thorough treatise on underdraining, but a few practical hints, collected while engaged in the work, will be thrown out as they occur to me. I should prefer to drain in August, September or October; never again in November. Do it in a dry time, and after commencing, finish it up as quickly as possible.

We, this year, waited to remove nursery stock, and as it was, had to arch six times under evergreen hedges. I now design to trench this piece two feet deep, and consider it my most valuable land. It was a sunken place, very near my buildings, where the water is retained for several weeks in spring, by higher ground directly below. The fall is ample and constant, so that no instruments were used in staking it out. In the first place, look over, carefully, the piece to be drained, using judgment and common sense in locating the ditches. The outlet must be the lowest point, and the main ditches should be through the lowest land. The laterals should enter the main ditches in the direction of the outlet, and no two should be opposite. The distance apart will depend upon circumstances. On moist or moderately wet land, for grass or other field crops, thirty, forty or even fifty feet would do, but on wet retentive land, designed for valuable stock or choice vegetables, fifteen, twenty to twenty-five feet apart would be necessary.

If the piece to be drained is large and nearly level, it would be better to employ an engineer with levelling instruments, and have the depth to be dug marked on stakes, all over the piece Although a very slight fall will do (2 inches to the 100 feet), it is always better to have more if possible.

Probably for long ditches, a plow could be used to advantage, also the second or third time. In the vicinity of Geneva, N. Y., where the land is very generally underdrained, not only for orchard and nursery purposes, but also for ordinary field crops, a peculiar plow, something similar to our old subsoilers, is used for loosening the soil to the depth of two or three feet, and in that way whole fields are drained to the depth of four feet, at a cost of $40 per acre. I should not use a plow in striking out, but should cut by a line, not over twenty inches wide, if the soil was firm enough to stand at that width; if it was of a loose texture, it might need to be started two feet or more wide. Should have all the good soil thrown on one side, and the bottom soil on the other. My rule would be four feet deep; sometimes more, sometimes less; but should not order the men to dig to the full depth at first; but have a careful man dig to a true grade afterwards. My implements would be a long, sharp spade for marking out, best ground-pointed, long handle shovels, and the very best heavy picks. We should have better picks than are usually found in our stores; heavy, with plenty of well-tempered steel, which should be kept well-sharpened up. With good, experienced diggers, the ditch ought not to cost, ready for the tile, over fifty cents per rod. Do not let the men narrow in the ditches, as they go down, but keep the sides nearly perpendicular, to nine or ten inches wide at the bottom. This is necessary in order to do good work. Before commencing to lay the tile, *be sure the grade is true and uniform* through all the ditches; go over it with a hoe the last time, to remove the bunches and small stones that may be left. Should there be any doubt in regard to any of the laterals, it would be well to try them with a straight edge and spirit level; then if there should not be sufficient fall, it would be necessary to sink the main ditch deeper. Should any of the ditches run through quicksand or springy places, it would be necessary to lay the tile on firm, flat stones, or good strips of board or plank. In regard to tile, the round is every

way better than the old horseshoe. Two inch is usually large enough for the laterals, and for the upper ends of the mains; towards the outlet it is well to use larger tile, according to the amount of water that will naturally flow through them.

After the ditches, or a certain portion of them, are completed, the sooner the tile is laid the better. Always commence at the upper end; put a flat stone or half brick against the upper tile, and press it firmly against the bank. Make as close a joint as possible every time, which can be done by turning the tile, or trying another, until there is a close fit. In regard to covering the joints, it may not be necessary in some soils, but I find sand and fine mud are always working in, as can be seen at the outlet, after a heavy rain; so I should always cover the joint. Most people use common tarred paper, others, tea chest lead, etc., but from a hint from our friend Gregory, that tarred paper would only last a very few years, under ground, but that leather was "almost indestructible," I procured from a belting shop, leather enough for $1.50, at 5 cents per lb., to cover my 1800 feet of tile, and have some left; and as time is very precious when one is "down in the ditch," I would have my leather all cut beforehand, to the exact size, viz., 2 inches wide and 7¾ inches long for 2 inch tile, 11 inches long for 3 inch tile, 13 inches long for 4 inch tile, etc. Two inches is wide enough for all. This size will completely cover the joint, reaching to the ground on both sides. Then with your strip of leather in an old pan on one side of the ditch, and the tile placed on the other side, on the very edge,—standing in the ditch, holding the leather firmly over the joint with both hands, you are ready to have a careful man, standing on the tile already laid, pass you fine gravel or sand, to be worked under and around the tile, while you keep the leather in place, and see that the dirt is put in evenly on both sides.

While you are fitting the next tile, the man can press the dirt very firmly with the edges of his boots, one on each side, at the same time; then with two or three inches more of fine

soil, well trodden or settled with a pounder, your tile is secure. Work down to the next ditch, when that should be laid in the same way, and the connection made. Elbows and bends come with the tile, but it is difficult to make good joints without cement, at these connections; hence, a little made fresh every time, is the quickest and safest way to get over it. Tile can be cut with an old saw or hatchet, into any required length. Continue thus to the outlet, which should be of the best hard burned tile, strongly embedded in stone or brick. "It should deliver the water over a step of a few inches, so that the action of the drain may be seen, and the accumulation of sand and mud be prevented from clogging it." It is well to cover the outlet in winter, with evergreen boughs or boards, to prevent the effects of freezing and thawing. A coarse screen should be placed over the outlet, to keep out all vermin. By drilling small holes in the end of the last tile, stout copper or iron wire can be passed through, which answers a good purpose. Every year, on the approach of winter, the outlets should be examined, and all sediment and rubbish removed. The trenches should be filled in as soon as possible after the tiles are laid; the bottom soil first, and the good soil at top. Never lay your tile in top soil, as many are tempted to do, because it is softer and finer, for it will eventually encourage the roots of trees and grasses, into and around the tile, and thus destroy its usefulness.

This is one of the greatest obstacles to tile draining, that roots of certain trees will so penetrate the soil, for food and moisture, that where they come in contact with the drain, they will enter and choke it. I know of no trees so bad, in this respect, as the Elm and Willow, and drains should never be laid in the immediate vicinity of these trees. Willows, especially, should be annihilated before drains are laid near them. I have never known fruit trees or evergreens to penetrate to the drains; but probably they would if the rich soil were there to draw them. Certain grasses, too, are trouble-

some. In the vicinity of Exeter, N. H., the common horse-tail rush (equisetum pratense), was so troublesome that it had to be exterminated, from several fields, before the tiles would work successfully. Knowing these obstacles, we should guard against them; and we cannot but believe, that in the future, this whole subject will be better understood, and that under-draining will be practised by nearly every farmer.

T. C. Thurlow, *for the committee.*

STATEMENT OF WM. W. PERKINS.

The piece of land entered for premium, by me, consists of six acres, situated on the west side of High street, in Newbury. The land is mostly level, and appears to be very difficult to drain; the soil consists of a rich, dark loam, from one foot to eighteen inches in depth, with a clay subsoil. In years past it was used as a pasture, but was afterwards ploughed and seeded to grass. For a few years it has been sown to onions mostly, but has always been a difficult piece to till, owing to the surface water, and its hardness in a dry season and its coldness in a wet one. Some form of drainage has always been found necessary, so the land was ploughed in beds, with shallow, open ditches between, and during the spring and fall considerable time was spent in cleaning out these ditches. On one part, say an acre, I think we have hardly produced enough to pay for manure and labor, on account of water, that part of the field being very springy.

In the fall of '82 I decided to underdrain it. The land appearing to be very level, I procured the service of a Civil Engineer; he first found the lowest point for the outlet, with sufficient fall for taking off the water; he then gave me the level for the main drain, staking out every fifty feet. I then staked out the lateral or side drains, in the same manner, excepting taking the level, there being sufficient fall on the laterals without taking the level. After all were measured and staked out, I drew a plan of the field, a copy of which I enclose with my statement.

September 22d commenced digging on main drain; began at the outlet and dug the drain through, then dug first lateral at that end of the drain, throwing the top soil on one side and the subsoil on the other. I then procured some long brackets and set them on the edge of the drain, twenty feet apart, and then measured the depth I wished to dig. Suppose I wanted to dig four feet deep, I measured three feet from the ground up on the brackets, then run a line from that point to a point the same height on the other, which would give the right depth to dig, there being sufficient fall. Nothing more is necessary in the way of levelling on the laterals. A man then takes a pole seven feet long, and by grading the ditch so the pole will just go under the line the exact level will be obtained.

As soon as the level is obtained one man lays the tile, first placing a back at the end and turning the tile round till it fits as tight as possible; the round, or pipe tile being used, a very tight joint can be made. Tarred paper is then placed around the joint and held till some of the top soil is thrown on, as being finer and holding the tile in place better than clay. The soil is then pressed hard around the tile, the ditch partly filled with clay, the most of the top soil being left to place on top again, and so carried on till the main drain is reached. Just before it enters the main pipe a slight curve is given it, so that the water as it enters the main, shall be flowing in the same direction as the main. No two drains enter the main opposite each other; the mains are laid a few inches lower than the laterals. Not having elbows, I was obliged to break holes in the pipe as best I could; the pipes were then connected, tarred paper and tin placed around the joints, and then cemented tight. The main pipe was then carried along to the next lateral, and the same process repeated, and so on, till all were laid.

The drains were dug wholly by hand, as the top soil is taken out very quickly and the men did not like to dig after a plow; the subsoil was very hard, requiring a pick to loosen it. The tools

used in digging were round and square pointed shovels, long and short handled spade, picks, and a long-bladed, narrow spade made expressly for draining. The drains were dug two feet wide at top and six inches at bottom, and from two to six feet deep, three and one-half on an average ; I should say the smallest fall being three inches, the greatest three feet in one hundred feet.

At the mouth of the main drain was dug a trench, ten feet long, three wide, and three deep. This was filled with small stones, and the end of main pipe allowed to come out on it. I did this, thinking there would be less danger of the outlet throwing by the frost, the pipe being covered one and one-half feet deep at outlet. At the mouth of the drain is a brick enclosure two feet square, and two and one-half deep, protected with wire netting.

Finished laying tile November 16th ; filled up all of ditches with the Town's road scraper, which is one on wheels ; in this manner they were filled very quickly. The ditches were rounded up well in the middle to prevent the water standing over the drain. I intended to plough the land and back furrow, to fill up the open drains, but was prevented by the weather, it snowing that night and all the day following; there was no chance, however, for water to run off the land except by way of the tile. During the winter the water seemed to settle away as it never did before, the drains running most of the time. As soon as spring opened and the frost came out, could drive a horse team over any part of the field, the land being as dry as most high land, although before draining, for a month after the frost was out of the ground, in parts of the field, a horse would go nearly to his knees. The ground ploughed very well, and has worked much better the past season than ever before. In the spring and early part of summer, we had some heavy rains and the land was flooded, but only for a short time, the drains taking the water off very quickly,

The crops for 1882 were very poor. On one-half acre of onions there was not one peck of valuable ones; on that same piece this year the crop has been estimated from eight hundred to one thousand bushels to the acre. The whole crop on four acres of onions last year was six hundred bushels; this year think they will average six hundred bushels to acre. The crops for this year are four and one-half acres onions, a small piece of carrots, sugar beets, cabbage, and various other garden crops. The crops have all looked well with the exception of the cabbage, the worms eating the most of them, and don't think the crops have been affected by the drought, which I think is owing to the drains keeping the land moist. Although I do not think it hardly fair to compare this year with last, owing to the extreme drought of last year, I do think our crop has been doubled for this year, and I am well satisfied with the drains.

The following is the cost of draining six acres. By comparing the number of feet laid with the amount bought, as will be seen, there were some left over. There were mostly two inch, there being but very little breakage on the larger size tile. The total cost, as seen, is $392.88, an expense of 82 cts. per rod, or $65.48 per acre.

EXPENSE.

To 155 days labor, at $1.25 per day,	$193 75
To 6495 feet 2-inch tile, at $17.00 per M,	110 42
To 861 " 3 " " " 29.75 " "	25 61
To 558 " 4 " " " 46.75,	26 10
To freight on tile,	16 00
To hauling tile from depot,	10 00
To expense to Exeter to buy tile,	4 00
Paid Engineer,	4 00
Tarred paper,	3 00
	$392 88

EXHIBITIONS OF FARMERS' CLUBS AND FRUIT GROWERS' ASSOCIATIONS.

For several years past there has been a committee of "Delegates," chosen by this Society, "To attend Exhibitions of Farmers' Clubs and Fruit Growers' Associations in Essex County, and to report any information that shall seem to them valuable for publication in its Transactions." For the two past seasons I have had the honor of being chairman on that committee, and have endeavored, but failed, to get more than two members together at any one exhibition. As these exhibitions have generally been held for two or more days and evenings—coming as they do at a very busy season of the year—it has been impossible for the committee, except in one instance, to meet together at any exhibition, during the whole two years. Then again, your chairman has been unable to confer with the other members, and presuming that each and every one has attended to his own special duties and responsibilities, and is well prepared with subject matter for a report—I would suggest that in future, if this committee is continued, each member write his own report, over his own signature, for publication in the "Transactions"; and I would take this opportunity to thank the Society, kindly, for the honor it has bestowed upon me, in electing me the second time, upon this committee; but knowing my own inefficiency, must decline a nomination for the "third term."

Owing to the severe drought and short crops of fruit and vegetables in 1882, only two of these exhibitions, to my knowledge, were held, viz., in Salem and Newburyport; and during the past season there have been four: in West Newbury, Haverhill and Bradford, Amesbury and Salisbury, at Newburyport, and in Ipswich. The writer of this has attended them all, and without specifying any one, or any particular thing, would say that they were all good, very good. Such

fruit, such vegetables, such cattle and poultry, such handiwork from the women and children, and even such works of art from our young people, would have surprised our fathers and mothers, even at the regular county fairs, twenty-five years ago. When nearly every farmer in the county vies with a Gregory and Low, to produce the best and newest potatoes, squashes, tomatoes, &c.,—when the farmers' wives and daughters, not content with the old familiar flowers of their ancestors, order seeds and plants from the most celebrated florists of this country and Europe—and then you see progress; and whoever says the farmer of the present day is not enterprising, not up to the times with the trader and manufacturer, is not posted, or has been misinformed. These "Farmers' Festivals," where they exist, have become a fixed fact, and are looked forward to by old and young as a sort of holiday, where a general reunion and good dinner are not the least among the attractions. Here, too, the Governors and "big men" have an opportunity to display their eloquence and wit. Also the politician and office seeker, with no other end in view, but to instruct and amuse the people. My own idea would be for a somewhat more quiet time, with perhaps an after dinner address by a practical man, on some subject connected with agriculture. I would say further that there is and should be the best of good feeling between these and the "Parent Society," which is the originator and exampler of these, and they the auxiliary and helper of that. One other suggestion would be that in all the cities and larger towns of the county, these societies, or others that might be formed, should hold exhibitions fortnightly, or weekly if they chose, during the whole summer season; not on a large scale, by any means, but in a quiet way; two or three earnest, persevering individuals might hire a room, and with a small entrance fee of ten or fifteen cents, easily pay all expenses. It would soon become a nucleus for people of culture and taste, while the social greeting and pleasant acquaintance of friends and neighbors,

would have an elevating and refining influence on the whole community. There might be exhibited our first spring flowers, the crocus, the tulip and the hyacinth, not forgetting the natives of our hillsides and woods. the choice pansy from the garden, the pet geranium from the conservatory, the hybrid rose that we have watched for so long, and want others to enjoy with us, not forgetting the fruits and vegetables as they come to perfection. Who would not enjoy showing the earliest and best tomatoes, the best and most varieties of sweet corn? With what a laudable pride one might show the new varieties of strawberries, raspberries and blackberries—in fact all the early fruits and flowers, that cannot be kept, till the September exhibition.

Think of the influence the Massachusetts Horticultural Society, and similar ones in New York and Philadelphia, have had upon those cities respectively. Think of the beautiful parks, cemeteries and suburban residences that had their origin *directly* in these societies, and have conferred so much other wealth and prosperity,—not only of these cities, but to the country generally. I think Salem and Lynn are the only cities in the county, that can boast of Horticultural Societies and these are very irregular in their meetings and exhibitions. Ought not these cities, with Gloucester, Newburyport, Haverhill and Lawrence, in connection with the adjoining towns, each to support active, working societies of this kind? We hope and trust the day is not far distant when this will be accomplished.

Respectfully submitted,

T. C. Thurlow, *Chairman.*

TREADWELL FARM.

The management of the Treadwell Farm under Mr. D. F. Macauley who is the foreman of T. W. Pierce, Esq., has been quite satisfactory to the committee. A very liberal amount of manure and fertilizers has been applied, and, considering the very severe drought through July and August, the crops have been very satisfactory. As appears by statement, a large amount of work has been performed in ploughing up woodwax and digging up bushes in the pasture. Although much remains to be done to exterminate these pests that have gained such strength as to seriously injure the pasture, the committee are in hopes that, with some effort, another year, they may be thoroughly destroyed.

Two experiments have been conducted by Mr. Macauley, the past season, under the advice of the committee, which are interesting but not wholly conclusive, details of which are herewith submitted, as gathered from Mr. Macauley's statement, also his statement of the fertilizers applied and crops grown.

An experiment with two acres of Hungarian grass was made to show the difference in effect, between Bradley's fertilizer and stable manure mixed, and Bradley's fertilizer alone. On one acre was applied 200 lbs. of Bradley's fertilizer and two cords of stable manure, which produced 6150 lbs. of hay; on the other acre was applied 600 lbs. of Bradley's fertilizer, which produced 5600 lbs. of hay, a difference of 550 lbs. of hay in favor of the manure. The cost of fertilizing the first acre with manure at $8 per cord, would be $20.50, while the cost of fertilizing the second acre with fertilizer alone, would be $13.50, which would make the 550 lbs. of hay cost $7.00, which is, of course, much more than it is worth; but if, on the other hand, one-half the value of the stable manure is left in the land, as is generally supposed, while none of the value of the fertilizer remains, then the net value of the extra crop and 50 cents beside, would be in favor of the manure, which prob-

ably is nearly the correct result of the experiment. The condition of the land at the time of sowing, cutting, etc., were alike on both acres.

The second experiment was with corn, as follows: On one-half acre was applied 300 lbs. of Bradley's X L fertilizer; 200 lbs. of it was spread and 100 lbs. in the hill and planted with Longfellow's Corn and produced 23 bushels corn, and 1265 lbs. stover. Another one-half acre was fertilized with 200 lbs. of Stockbridge Hill and Drill, spread on and 100 lbs. in the hill as before, and planted with the variety of corn that was on the farm, whatever that might be, and produced 21½ bushels of corn and 1120 lbs. stover. These lots of land were of the poorest quality on the farm.

The committee are disappointed in this experiment, and in truth do not consider it an experiment at all, as it proves nothing. If the same fertilizer had been used on both lots it might have shown which was the better variety of corn ; or if the same variety of corn had been planted on both lots, it might have shown which was the better fertilizer ; but, as it is, nothing is shown but the necessity of exactness in experimenting, which so many fail in.

CROPS OF THE FARM.

42 cords of Slaughter House manure, 22 cords of Stable manure, 5 tons of Bradley's X L fertilizer, 300 lbs. of Stockbridge Hill and Drill fertilizer were applied during the season.

1135 bushels of corn, 31 tons of corn stover, 21 tons and 1725 lbs. of Hungarian Hay, 10 tons of English Hay, 14 tons of Meadow Hay, 6½ tons of carrots, 420 bush. of potatoes, 20 bbls. of apples, and 9 bush. of beans, have been raised on the farm.

The committee are pleased to be able to report that the buildings, on the farm, are in good repair and will need but trifling expense for several years.

Benjamin P. Ware, O. S. Butler, C. P. Preston, S. D. Hood, *Committee.*

ESSAYS.

THE DEVELOPMENT AND TRAINING OF THE FAMILY HORSE.

BY O. S. BUTLER, OF GEORGETOWN.

To man, whether as a civilized being or as a barbarian, no animal is more useful than the horse; and for beauty of form, or grace of movement, the horse has no superior, among the domestic animals. He is man's most trusty and serviceable friend, and in his domestic qualities and habits is surpassed only by the dog. It would be very interesting to trace the history of the horse from his original home in Egypt (not Arabia as has been supposed), down to the present time, when he stands, confessed, the noblest animal of this, or any other age.

We say from his home in Egypt, for, undoubtedly, Egypt was the original home of the horse. The first mention in history that we have of the horse, is at the time when the famine was raging in Egypt, and Joseph, who was ruler of Pharaoh's house, took horses of the surrounding nations for bread. And again, on the death of Jacob, the father of Joseph, his funeral was attended by both chariots and horsemen. From this time onward, the horse was found to be specially adapted for use in battle. We are informed that at the time of the exodus, some fifteen hundred years before the Christian era, the pursuing army contained six hundred chosen chariots, and all the chariots of Egypt, together with all the horsemen. And we find that when the Israelites returned back into Canaan, they found that the horse had already been naturalized in that country, for the Canaanites went out to fight against Israel, with horses and chariots very many. From these, and other considerations, and from the fact that so late as six hundred years after this

date, the horse was entirely unknown in Arabia, it is by no means an improbable conclusion, that the shepherd Kings of Egypt, whose origin is still unknown, introduced the horse into Lower Egypt, and that after this period, that country became the principal herding district of this noble animal, from whence he was gradually introduced into Arabia and the adjoining Asiatic countries, and, doubtless, from this same stock is derived the entire race in all southeastern parts of Europe.

It would also be interesting to investigate the anatomy of the horse. For an example, the dentistry and diseases of the mouth, for the mouth of the horse is as delicate in its arrangements, and as complex in its structure as that of the human species. Or the stomach with its wonderful capacity, the diseases that originate in it, the myriad forms of vermin that generate in it, or find a home in its generous apartments. Or the respiratory organs which are more subject to fatal diseases than any or all other organs combined. Or the feet and limbs of this noble animal; the foot itself with its wonderful structure and dangerous ailments is an inexhaustible subject. Even the hair of this animal is an unexplored subject, and yet in every fibre it is characteristic of the animal it covers.

We might write of his first use as a beast of burden for nearly a century before he was used as a war horse, and these very many years before he became the companion and servant of the family, or was thoroughly domesticated. But instead of considering these interesting features of his nature or character at this time, we turn to consider the subject assigned us, and which is more congenial to our taste: The Development and Training of the Family Horse. First: What do we want in a family horse? Answer: We want, first of all, a horse that will *stand* in all places and at all times. And what we mean by standing, is not a standing that is always moving, or pawing the ground, or starting and stopping, but a standing still, quietly, surely, until you ask him to go on. A horse that

has not been taught to stand, and does not know the meaning of the word whoa, is not worth a cent for a family horse, however valuable he may be for a gentleman's driving horse, or for a work horse. To know how to stand still is an invaluable quality in the family horse. Second: We want a horse that will work kindly in all kinds of vehicles generally used on the farm. This is all the more necessary where but one horse is kept on the place, and it adds greatly to the value of the family horse if he is good under the saddle. Third: We want a horse that is entirely free from all stable or road tricks that would render him dangerous, or even uncomfortable to any member of the family, such as biting, kicking or crowding in the stable, shying or tripping on the road.

In order to develop such a character as we have described, we must have the right stock to begin with. We must have a good, well-bred young animal, well formed, and sound as a rock. As to breed, we prefer the product of a full blooded Morgan mare, crossed with an English thoroughbred sire. As to color, we prefer the bay with dark points, or an unmixed black. The hair is a good index of the blood. Unmixed color means unmixed blood. We prefer a northern bred animal to any other. They are better adapted to our climate, and thus escape many of the diseases that are so fatal to the southern and western horses when they are brought into New England. Our system of feeding, especially the pasturing, is best adapted to develop and sustain our ideal horse. The colts that climb the rough and rocky hill pastures of the north country, develop a muscular limb that rarely, if ever, show the knock knee or the spavin. And besides this, the foot of the northern horse is more perfectly formed and healthy, while his habit of climbing the rocky mountain pastures, teaches him to carry his fore feet sufficiently high, and to place them so firmly on the ground that he never trips or stumbles even under the saddle, carrying a heavy rider. The Arabs, in training their colts for the saddle, blindfold them, so as to teach them to step high

and carefully. The young horse that has roamed over our northern pastures for years, does not need this.

When you have your animals perfectly developed, and free from all blemish and disease, then you may proceed to the task of developing his character, and the earlier you commence the better, always remembering that the chief value of the horse, like his master, consists of his character. In training your horse for family use, or any other use, there are two important facts to be taken into the account. First: That the horse has no knowledge of what he can do, or ought to do, except from what he has done before. Second: That the horse, like all other animals, is a creature of habit, viz.: what he has done once, he can and will do again. And in teaching our horse to do what you want him to do, you must produce two impressions on his consciousness. When this is done the battle is nearly won. First: That he is completely in your power, and entirely under your control. You may choose your own methods to secure this result. Our own course is to proceed by the use of the mildest means possible, and we have rarely, if ever, found an animal so obstinate as to require the use of the more harsh or forcible means. Sometimes a stupid, worthless brute will resist the more gentle treatment, but the spirited, high mettled horse readily yields to your demand. But the point *must* be gained at all hazards, by one means or another. The horse must submit entirely to his trainer or you may as well give up the contest.

The second impression to be produced on the animal's mind, is, that you will not harm him. He must feel not only that he is in your power, but that you are his best friend. The horse is capable of the strongest attachments to his friends, and will respond cheerfully to their call. Put yourself on the best of terms with your horse. This may be done in many ways. Give him a good stall, plenty of nutritious food, treat him kindly, call him pet names, encourage him to do his best at his work, praise him and pat him gently when he does his

best, and he will try to do better the next time. And above all, have patience with mistakes, or failures to do what you ask him to do the first time. Do not lose your temper and abuse your horse. The moment you have lost control of yourself you lose control of your horse. No man can control an animal who cannot control himself. If you find you have lost your temper, stop, wait until you are cooled off.

When you have perfect control of your animal, and have assured him that you will not hurt him, but that you are his friend and protector, then you can ask him to do anything you please, and, if it is within his power, he will do it, and will respond cheerfully to your call.

After we have our horse thoroughly in hand, then we proceed to train him for the uses we wish to put him to.

The first thing to teach the horse that is intended for family use, is, as before suggested, to stand still and surely.

First, in the stall. The horse that is always pawing, biting, kicking and generally uneasy, is not worth a penny. If you cannot cure him of those habits, don't waste your time on him, in other directions. He is no good for our purpose.

Second, to stand while you are putting on the harness, or taking it off, and not moving all about the stable, with his nose into every bucket or box that he can find, getting tangled up in his harness, and generally mixed up. We want him to stand in his place, quietly, until the harness is completely on, and every strap is buckled, and he is asked to go on.

Third, to stand while you are getting into your carriage, or alighting from it. The well trained horse never moves until every person is in the carriage and well seated, and he receives the signal for moving on, which is the gradual drawing up of the reins.

Fourth, we want him to stand hitched or unhitched, in any spot or place. The unhitched horse stands with more safety than the hitched horse, if properly trained, for it is not the fragile tie-rein that holds your horse, but the power of habit,

and that power is just as strong over the unhitched horse as the hitched one.

In order to secure these results, you must first teach your horse the meaning and use of the word *whoa*. This word must never be used, except when you want your horse to stop, or to stand, and then at first, it must be enforced by some physical movement, that brings the animal promptly into the bricben. If you keep up a continual whoa! whoa! from the time you commence to harness until the horse is hitched to the carriage, you will not have any whoa when you need it. When harnessing, always approach your horse from the same direction, until he is well in hand, then you may approach him from all directions. Put on the same piece of harness first, every time, and then the other parts, in regular order, then there are no surprises. He knows just what to expect, and is prepared for it. Observe the same rule when hitching to the carriage. Have a system about it. Hook the same tug or strap first, every time, so that when the last strap is hooked, you know, and your horse knows, they are all hitched, even if it is very dark. Observe the same rule when unhitching from the carriage, or in removing the harness, standing him in the same place and position as when you put the harness on.

After you have your horse so trained that he thoroughly understands the meaning of the word whoa. and its various uses, so that he will stand when he hears it, under all circumstances, and especially without hitching, you are all right. The late Col. Coleman, of Newburyport, used to say, it was easier to teach a sensible horse to stand without hitching, than it was to teach him to stand with the tie-rein, and much more safe; for if your horse breaks the tie-rein, by accident or otherwise, he is sure to run, because he is alarmed at what he has done, and after he has run once, there is no tie-rein that will hold him, under the same provocation.

In teaching your horse to go, and to go when you want him to, and where you want him to, you must teach him the art.

Many persons suppose that it is perfectly natural for the horse to go right on just as you want him to. This is a mistake. It is natural for the horse to move along in some way, but there is the widest difference between mere locomotion, and a fine, easy, rapid road gait, so desirable in the family horse, and we should remember that this desirable quality is the result of very careful and continuous training. And first, you must teach your horse the meaning and use of the word go, or go on, or some word or expression that signifies your wish for him to move on, and when you have selected your word or expression, never use it for any other purpose. And you should not use it for the right object, too often, for, if you are constantly saying go on, go on, you won't have any go on when you want it. There is a certain kind of familiarity that breeds contempt, even in a horse. He soon becomes indifferent and dull, then comes the use of the whip, which should never be used, except for punishment, or as an ornament. Give him one good, clear, distinct *go on*, that will send him on his way until the word whoa brings him to a halt.

When this is thoroughly accomplished, then the horse must be taught the use and power of the bit. This is, or should be, a very delicate operation. In our opinion, more young horses are spoiled by the cruel and sometimes dastardly use of the bit, than in any other way, If you do not see the point, just place a bar of cold iron in your own mouth, some cold winter morning, and then let some ignoramus, who prides himself on his superior muscle, experiment a little time, in turning your head or moving your body, and you will have some appreciation of the sensibility of the horse's mouth. The bit should be adjusted to your horse's mouth so as to hang as easily and naturally as possible. If your animal should object to receiving it into his mouth at first, don't strike him over the head, nor pull him forcibly around, nor even scold him for his seeming disobedience. Take the bit in your hand, show it to him, convince him that it is harmless, and the most obstinate colt will

yield to your demand, if kindly treated, and take the bit as kindly as an ear of corn. The kind of bit to be used. Well, we prefer the straight, plain bar, covered with leather or rubber. The soft, easy bit is the best. We look upon all forms of curb or buckeyed bits as simply so many methods of torture to a young horse. Undoubtedly there are old horses that have been spoiled by abuse, that need to be restrained by the use of the curb bit. If so, they are entirely unfit for family use. But with all the horses that we have handled, we have never found one that would not behave better without the curb than with it.

When we have our horse properly bitted, his mouth thoroughly accustomed to receiving and holding the bit, we must then proceed to teach him the use and motion of the rein, and we must remember that the rein is the best possible medium of communication between the horse and his driver, that we can have. It is a perfect telephone, and the first that was ever invented. But in order that this medium should accomplish its highest purpose, it should be entirely unobstructed by check-reins, overdraws or martingales. Clean them all off. Give free play to the whole system, especially the neck and shoulders. Let the rein draw straight as a line from the bit to the driver's hand, so that the least movement of the hand will find a quick response from the horse's mouth. You will thus avoid contracting what is known as a hard mouth. The hard mouth is an exception, and not the rule, naturally. It is almost impossible to fully comprehend the power you can exercise over the horse with the rein. We have tried it sometimes, when driving through a long piece of woodland, on a dark night, and without speaking a word to the horse, or ever making a sound with the voice, we have communicated with our horse, through the rein, so as to send him along at the rate of ten miles per hour, to the great delight of both horse and driver, for the well trained horse loves his master, and will trust him under all circumstances, and when he feels the electric current flowing from an intelligent brain, behind him, he knows it is

all right to go right on, and he has nothing to do but to strike right out, and do his level best. Many a horse has passed an all but useless life, simply because he has never felt the force of such a magnetic touch, and some that have felt this inspiration even in their old age, have marched straight from the plow to the track, winning a place at the head of the list, and holding it too.

The importance of cultivating a skilful handling of the rein, in driving the family horse, can hardly be over-estimated. It disposes of the use of the whip entirely, and leaves the driver to converse freely with his companions in the carriage, without interfering with, or retarding the movements of his horse. But the driver needs intelligent cultivation, as much as the animal.

But we want our model family horse not only to go, but to go when we please, and where we please. In order to secure this, we should never ask him to go until we are all ready to start. If you ask him to go before you are ready, and then stop him, and then start him again, and thus repeat the operation, you will find yourself entirely engaged with your horse leaping and plunging out of the door-yard, to the great dismay of yourself and family, and after one or two such performances, your horse has formed a habit that is both uncomfortable and dangerous, and which may take years to correct and cure, and all for no fault of the horse.

We want the family horse to go *where* we desire him to, as well as *when* we want him to. Some horses have a dread of going into an unfrequented street, or object to approaching or passing uncommon objects, such as a load of hay or furniture, and become almost unmanageable in their presence. Some horses have a perfect dread of the cars or a smoking engine, and yet, while this is true, all horses can be so trained as not to care for either of these objects. With some, it is a short process, while with others, it is a longer process, but it can be accomplished, if we persist in the use of a mild, but systematic

treatment. Our rule is, to never try experiments with our horse, neither to see what he will do nor to show a gaping crowd of men and boys what our horse will do. We always endeavor to show our horse that we have some useful object to gain, something that must be done, not merely to torture or to train him, but to serve us.

To illustrate our point, we give an example. If we wish to teach our horse to go to the depot, and to stand safely in his position until the engine has come and gone, we show him that there is something to go for. If he is very restive and unmanageable, we take him to the station when the engine is out. We accustom him to the track by crossing and recrossing the rails, going around the depot several times; then we drive directly up to the platform, and with the word whoa, we bring him to a quick halt, and before he has time to realize his situation, we step out of the carriage, taking out a box, or trunk, that was placed there for the purpose, placing it on the platform in plain sight of the horse, keeping one hand on the rein all the time, the horse watching our movements, will not attempt to move until we are in the carriage again. Then we quickly give the word to go on, and drive away, the whole performance not occupying more than three minutes, and making it sure that the horse stops, and moves on, at the word *whoa*, and *go*, not of his own accord.

In a short time, and before the horse forgets his first lesson, we return for our trunk that we left on the platform, driving over the same route as before, and halting in the same place, at the platform. We halt him as before, and step out as before, and taking the trunk, we place it in the carriage. This time, we occupy more than five minutes in the operation. The horse becomes more interested in the loading and reloading of the trunk, than before, stands longer, waiting for us to get into the carriage; he takes the word "go," and moves proudly away, as if conscious of having performed a valuable service for his master, whom he loves, and at the same time receiving

a most valuable lesson. Then we try the same method when the engine is at the station, and in a very short time our horse will stand securely in his place at the depot, until we have loaded our baggage, or unloaded it, and does not know that he can move, until we are seated in our carriage, and he hears the word, go on. If there were fifty engines all puffing at the same time, it would not make any difference. And this course will usually succeed with regard to other objects, but you must have patience, and make no mistakes.

We once purchased a horse, for a mere trifle, of a gentleman in Newbury; a very valuable horse, with one exception. He could not be made to pass a load of hay on the road, with any degree of safety. We were informed by the owner, that he was perfectly unmanageable in the presence of a load of hay. This information was communicated to us, after we had bought the horse. After we had owned him a month or so, and had thoroughly convinced him that we were his friends, and that he must do what we asked him to, we drove down to Newbury, and found the farmers moving their salt hay from the marshes. In less than one hour's time, we were following three large loads of hay, with two loads behind us, while our reins were hanging loosely on the dasher. And the best of all was the fact that the former owner of the horse was sitting on the seat with us, perfectly astonished at the good behavior of the horse, and his own bad behavior in fooling away his horse, for a mere trifle.

And now, if you would succeed in developing and training a horse for family use, observe the following rules: Train your animal yourself. Train him on your own premises, and on the roads you will most frequent. Train him in connection and association with the members of your family. Let him become acquainted with their looks, the sound of their voices, and familiar with the objects that will daily greet his eyes, and have a system of movements and adhere to it; and above all, have patience with your horse and yourself. And if you want

a perfect family horse, beware of a cosset. Don't buy a cosset; don't train your horse in that line. The horse is like his master, a treacherous animal. Your only safety is in keeping him under perfect control, with all his energies directed to some practical purpose. Let the circus clown handle the trick horse. That is his business. Our business is different. When we go to purchase a horse, for general use, and his owner begins to tell of his wonderful exploits in the performance of amusing tricks, we leave him at once. We have no business for that animal. He is more ornamental than useful. We remember a friend of ours who boasted of his family horse. He was a perfect cosset. He could do everything. He would kiss his mistress, shake hands with his little girl, take off his master's hat, and all the long list of funny tricks, usually performed by the circus horse. His owner informed me that he had performed in the circus ring for several years, and was a beautiful creature, and very intelligent.

Being on a visit to my friend's house, one day, he gave us an exhibition of what he could do. His first trick was to take off his master's hat, which happened to be a cap, that time. The horse desiring to please his master and do a good thing, took a very strong hold of the cap and left a scalp wound on his master's head, that lasted him all winter. Not long after this wonderful feat, our friend asked us to look into his horse's mouth, and tell him his age. As we approached him, he raised his forearm and struck at us, just grazing our knee with his foot. We escaped the loss of a good limb, by a hair's breadth, and did not tell the horse's age, either. My friend said the horse wanted to shake hands with us. We told him to send his horse to the circus where he belonged, and shake hands with the clown.

From what little experience we have had, in training horses for family use, we would say, to all persons who are endeavoring to develop and train an animal for general use, teach your horse a few general movements, only a few, and let those be

the essential ones. Let them be movements that will serve you at all times, and in all places, in the day time and in the darkness of the night, if an accident occurs, the harness breaks, or the carriage is overturned. We do not care about funny tricks. A prompt response to the word *whoa*, is worth more than all else, and might save the life of our family.

THE POTATO.

BY GILBERT CONANT OF IPSWICH.

The potato, as an esculent root, excels all others. As such, it ranks with corn and wheat as cereals. The loss of the potato crop in New England, would be a greater calamity, than that of either corn or wheat. However high the price of this delicious root may be, few families could be found, that would be willing to give up the daily use of it upon their tables. The price of potatoes is, generally, higher than that of corn, and sometimes it has been as high as that of wheat, and even then, the demand for them was good. The potato is both healthful and nutritious; and, when prepared for food, has no peculiar taste that is unpleasant. Its flavor is as good as that of flour. When the grain crop has been short, and that of potatoes abundant, they have often been used for the purpose of making bread; and have been found to be an excellent substitute for flour. But the potato, like all other esculents, has its destroyers. Of late, innumerable armies of the potato beetle seem to threaten its utter extinction. A partial remedy against the ravages of this most baneful pest, is found in Paris Green; still, the application of this deadly drug is attended with much labor and expense; and with danger to the lives of both man and beast.

The potato rot. This is another detriment to the successful growth of the potato crop. This has, oftentimes, cut off

whole crops, and in some instances, as in Ireland, where the potato is a principal article of food, it has brought the people to the very point of starvation. Neither cause nor cure for this disease has yet been satisfactorily discovered, though many have been assigned. But it does not seem reasonable to suppose, that a plant bearing seed can be propagated for a long time without its being renewed from the seed. If otherwise, for what purpose does the plant bear seed? For several years in succession, immediately preceding the first appearance of the potato rot in this country, the vines were loaded down with seed balls as were never known before, and, in the spring, plants sprang up from the seeds that had been scattered on the field in the fall, as thick as weeds; and, where these plants were cared for, they brought new varieties in abundance. This phenomenon was not without significance. Potatoes, from their first introduction into this country, had been propagated, mostly from the root, seldom being renewed from the seed; till at length, their power of propagation in this manner had become nearly exhausted, and the only alternative to save this most useful root from becoming extinct, was its reproduction from the seed. Nature, therefore, caused this superabundance of seed to be produced, as a premonition to mankind, of this important means to preserve the existence of this invaluable esculent. Virtually saying to mankind: "See, I have done my part, do thine."

The origin of the potato, and its use among civilized nations. The potato was not in use among civilized nations till late in the sixteenth century. It was first introduced into Spain in 1583. The seed was brought from the Spanish colony in South America, near Quito. In that mountainous country, this plant is indigenous, not at the foot of the mountains where the climate is intensely hot, but on the high tablelands of the Andes, where the climate is cool and salubrious throughout the year like perpetual spring. Quito is elevated

at a height a little less than two miles above the level of the sea, and almost directly under the equator, and a more agreeable climate is not to be found in the world. There are no extremes of heat nor cold. This may account for the potatoes thriving in high northern latitudes, although indigenous in the torrid zone. For more than half a century from its first introduction into Spain, it was grown there, and in several other countries of Europe, with success. It was propagated, no doubt, mostly from the root, without being renewed at proper times from the seed, and, at length, it deteriorated, became diseased and rotted; and before the end of the seventeenth century, it had become almost extinct in Europe, and seed was again imported from its native country. It soon came into general use a second time, and flourished well for nearly half a century, and then the rot commenced again, and continued till, in 1779, no good seed was to be had. Before the close of that century, it was imported for the third time, and the potato was so much sought, that in less than half a dozen years, it had again come into general use.

The introduction and use of the potato in the New England and other states. Potatoes were introduced into these states by emigrants from Europe. A hundred years ago, potatoes were not much used here, and but little esteemed. Turnips, and beans of Greeley renown were in more general use. But gradually the potato found favor, and at length it became one of the principal articles of food upon the table of every family. It had not been in general use here, for but little more than fifty years, when it became diseased, and rotted so badly from year to year, that whole crops were cut off, and its utter extermination seemed to be threatened. Old varieties were fast becoming extinct, and new ones were sought for wherever they could be best procured.

People then began to realize the importance of starting new varieties from the seed, and this was done to a much greater

extent than had ever been done before; but these were obtained from a superannuated and diseased stock, and they inherited the same; so that, although the disease may have been in some degree checked, still it is not cured; and the successful growth of the potato crop is uncertain. But much good has come out of what has already been done in this direction. Many new varieties have been obtained of superior excellence, by repeated plantings of the seed; and this is the method by which the various fruits that have received culture from the hand of man, have been brought to their present state of development. It is not by grafting, nor by budding, that fruit can be improved. In this manner, its choicest kinds can be perpetuated and multiplied to almost any extent, but it is by culture and repeated plantings from the seed that it can be improved in quality and size.

The potato in its wild, uncultivated state, and the method of improving it. The potato in its wild, uncultivated state was a small and bitter root, not larger than a walnut, and it has been brought to its present size and quality by culture and repeated plantings of the seed. If we plant the seed of other plants producing esculent roots, we get the kind we planted, but the seed of the potato plant, like that of many fruits, will bring a vast variety of its kind. From a single seed ball, several varieties may be obtained. In selecting from the seedlings to plant for seed, such only should be taken as are white meated. Cast all the rest away. Those whose meat is colored are not worth propagating, they are only fit for beasts, and it will not pay to raise potatoes for either hogs or cattle. Those of whitest meat, when cooked and properly prepared for food, will be like flour of whitest wheat. No tiller of the soil should neglect for a single season, when potato seed balls can be procured, to start some new varieties from the seed. The expense will be but trifling, and every new, superior kind that may be produced, will be a benefit to the producer, and of public good besides, for which a suitable premium should be given.

Old varieties are fast becoming extinct, and new ones should be started to supply their places. It might be well if every town should offer a premium to any one of its inhabitants, who should produce a new, superior kind, of three years from the seed, equal to any that now exist. Every agricultural society and our agricultural college, it is presumed, are doing something in this direction. Chauncy E. Goodrich, of Utica, N. Y., perhaps did more in his lifetime, in the way of starting new and choice varieties from the seed, than any other person had ever done; and his praiseworthy efforts were so well appreciated, that after his decease, a life-long annuity was bestowed upon his widow on that account. The Early Rose is one of his producing; and from the seed of that, it is said there have been started some of the choicest kinds that now exist. In former times, some kinds of the potato might be grown successfully for thirty years or more, the English White and the Long Red might be cited as examples, but at the present day, no one kind is expected, generally, to endure more than twelve or fourteen years; at that age it deteriorates, so that it cannot be grown with profit. For this reason it is important that the raising of seedlings be made a specialty. Besides, in doing this, observing always to select the seed from the choicest kinds, still better varieties may be produced, until the potato is brought to its highest degree of perfection. Nature seems to have endowed each species of the vegetable kingdom, with power to add variety to its kind. Cereals, legumes, and other viny plants, produce variety by a hybridizing process. But the potato, nature seems to have preferred above its kindred plants, and given it the power to reproduce, diversify, and improve its kind, like luxurious fruits, directly from the seed. The apple and the pear, when in their wild uncultivated state, were but little larger than the beach plum, and of acetic or bitter taste; and it is by culture and repeated plantings of the seed, that they have been de-

veloped to their large dimensions and delicious flavor; and the potato, in like manner, has been improved as much as they; and yet, no doubt, admits of more improvement still.

But if we would have the potato free from disease that causes it to rot, the surest way, perhaps, would be, to procure the seed directly from the native soil and climate. But Mr. Goodrich, the man whose name is famous for having started so many choice varieties of this excellent root, informs us that he once tried the test of planting seed procured from its native country, and it failed. But this single experiment is not enough to settle this important question. He might have been imposed upon; the seed he planted might not have grown outside of the United States; it might have been like the China seed corn that a few years since was circulated widely; the agent that procured it might not have been reliable, or he too, might have been deceived. Historical mistakes are often made by accepting as truth the statements of persons not reliable, or of superficial observers Some writer has stated that the potato was found wild in Virginia, by the first settlers of that colony, but it was the sweet potato, and not the common. How often is one species mistaken for another, and hence as in this case, mistakes arise. It has also been stated that the potato has been found in its wild state in Mexico, and that it was indigenous there. It might no doubt, have been found there, growing wild, but it sprang from seed imported there. In the history of Mexico by Clarigero, it is stated that the potato was brought into Mexico from South America, its native home. We have no certain knowledge that the potato is indigenous in any other country than in South America; and only there, upon the high mountainous regions, where the climate is equable and cool, and well adapted to its growth. All testimony to the contrary, is conflicting and improbable; and wherever else it has been found, it sprang from seed, no doubt, transported there. We have no knowledge that the

potato has ever been infected with disease, in its native country, that has caused it to rot; there it is renewed yearly and spontaneously from the seed; and, if it were renewed at proper times before it begins to deteriorate, in other countries, might we not suppose that it would flourish there, free from this fatal malady?

The cultivation of the potato. We would not dismiss this subject without reference to the cultivation of this most desirable and useful root; and we would presume to say much that has been said by others, hundreds of times; and yet the same should be repeated and enforced, till all who may desire to cultivate potatoes with success, shall regard these sayings. And, first, select for your potato field, a soil that is permeable. There is no better than a rich and mellow loam, so loose as freely to admit the air and rain; these two elements combined, will disintegrate its particles, and prepare them for plant food. A clayey or adhesive, heavy soil, is not adapted to the growth of the potato; in such, it will not thrive. The higher the ground on which your field may be, the better. On such, the potato is far less liable to rot than on low lands, where chills and dampness cause a mildew and breed the fungus, that sure precursor of disease. If your soil be lacking in the constituents of the potato, apply such fertilizers as may be needed. The potato requires but little nitrogen, and strong nitrogenous manures are unfavorable to its growth; that of cattle should be preferred to that of horses or of hogs. Your coarse manure, spread on your ground and plough it in. Plough deep and then spread on a coat of lime, and sprinkle on some salt. This the plant requires as a seasoning for its food, and lime is a constituent of the potato, and if your soil is not calcareous, this element must be supplied.

Next, harrow well till all tenacious clods are pulverized. Then draw the furrows at proper distances for the rows, and sprinkle in some ashes or some phosphate. This will quicken the germs and stimulate the growth of the young plants.

Ashes are a good manure for the potato, but should not be mixed with phosphates. An application of them to the vines, at the second hoeing, will make them thrive and destroy many noxious vermin. A dressing of plaster is also good for the vines.

Seed potatoes. For seed, plant none that are less than medium size and well matured. It is a law of nature that like produces like, and, if you plant diminutive seed, in harvest time, you may expect a crop like what you plant. Cut your seed potatoes lengthwise, never less than into quarters, halves would be better, and whole ones better still. It is said, that the germ of the potato is in the stem end of it, and that by finest branches, it is connected with the buds or eyes, so that, if it be cut crosswise, those branches would be severed, and thus the power of germination diminished, and the growth of the young plants retarded. Whereas the whole potato would furnish a good supply of nutriment for the plants, before their roots could draw it from the ground. This would give them an early start, and invigorate their growth, and the crop would be matured earlier than that of those of which the seed was cut. The former method would be like removing soil and cutting fibres from the roots of trees to be transplanted; and the latter, like carefully preserving the soil from dropping off their roots, and preventing their fibres from being severed. Potatoes, from which the crop produced may be designed for seed, should always be planted whole. When cut in pieces, their power of reproduction is enfeebled, the crop deteriorates, and disease is thus induced; and when there comes a season unfavorable for their healthy growth, they cannot withstand its deleterious influence; and when they seem to be maturing, and the husbandman is flushed with hope, suddenly, to his surprise and sorrow, he beholds the foliage of his field all blackened, as if a frost had killed it. He examines the plants, and finds them covered, like mold, with deadly

fungi. He opens the ground and finds the tubers beginning to decay. Now this disastrous state of things, might, in some degree, at least, have been prevented, if not altogether, if the course that nature has marked out, had been regarded. The works of him who follows nature in her works, will be most perfect. The only advantage there can be in cutting seed potatoes, is the expense that may be saved for seed, and this will be perhaps, more than balanced by the larger crop produced from whole potatoes. Beside, there are other disastrous consequences arising from a continued practice of cutting them for seed. It may answer once or twice, perhaps, when seed is scarce, but even then, it will cause deterioration in the crop produced, that renders it unfit for seed.

The proper time for planting potatoes. This is a question of some importance, and here let us take nature for our guide. The potato is indigenous only on the high table-lands of the Andes, where the climate is cool and salubrious, and not subject to drought, nor the scorching sun of midsummer that we experience here. The soil is calcareous, with a proper admixture of sand and vegetable matter, and it is kept moist by frequent showers and heavy dews. In such a climate and soil, the potato thrives, and when cultivated there, it is said to be brought to its highest degree of perfection. With us, the potato should be grown at that season of the year, when the climate most nearly corresponds to that of its native country. Hence we may learn that the seed should be put into the ground in spring, as early as it can be put in proper condition for planting, that the growth of the crop may be far advanced before the drought and intense heat of summer comes on.

At what depth should potatoes be planted? This will depend, in some degree, upon the kind of soil. If it be light and permeable, they should be planted at a depth of four inches at least, and if the soil be dry, they should be planted deeper still, for if they receive but a shallow covering, and no

rain should fall for a considerable length of time, much of the seed might scarcely sprout at all, and the growth of that which did, would be retarded, so that the crop would be but small. There have been instances of this kind, where the crop has been almost an utter failure, and the farmer's only remuneration for the expense of planting and manuring his field, was a heavy crop of weeds. Besides, it is important that they be planted deep, lest when the crop be grown, many of the tubers be found upon the surface, exposed to the scalding heat of the sun, that renders them poisonous to the human stomach. Many a person has been made sick, and no doubt some of tender age have died, from the effects of eating potatoes that were grown outside the soil. Such tubers may always be known by their green color. Some persons prefer to plant in hills, others in drills. We have tried both methods, and rather prefer the latter, with flat culture. If your field has not been thoroughly drained, do this, even at planting time, nothing will pay you better. In soil where water stagnates, potatoes cannot thrive, more than man in stagnant air. Potatoes after being planted, do not spring up quick, like some other kinds of vegetables, and therefore the weeds often make considerable headway, before the young plants make their appearance. For this reason, and not for this only, it is a good practice to cultivate between the rows, or to harrow the field before the plants come up; this will not only destroy a vast amount of weeds, but it will loosen the soil so that it will admit the air freely, which will combine with the moist earth, and prepare food for the tender plants that will quicken and invigorate their growth. As soon as the plants are of a suitable size, a cultivator should again be run between the rows, and some fresh mold be brought up to them. This should be often repeated until the blossom buds begin to appear. Afterward, the soil should not be disturbed more than is necessary to chop and pull up the weeds. This should not, on any

account, be neglected. If the weeds be kept down till the vines cover the ground, they will not make much headway until the foliage of the vines begins to die and fall off; then they will start up again, and grow with more vigor than before. At this time, use your cultivator again between the rows, and let the children pull out the weeds that shall be found among the vines. Fail not to keep them clear of weeds till harvest time. What more disagreeable sight upon a farm, than a potato field all grown over with weeds, so thick that the crop cannot be harvested until the weeds are mown and raked up into piles. And how difficult and unpleasant is the task to harvest potatoes that are entangled in roots of weeds, to which the soil adheres with so much tenacity, that they require considerable threshing to shake it off, and liberate the potatoes from them. The expense of harvesting such a crop, would be twice the amount of that which has been cultivated with proper care. But this is but the first verse of the chapter. By reason of such bad husbandry, not half a crop has been matured, and the weeds that have prevented its growth, have appropriated much of the fertilizing matter of the soil, to their own growth, so that a considerable outlay must be incurred to bring it back to its former tilth. Moreover, the noxious weeds have sown their seeds upon the field, and in spring-time, they will come up and cover the ground with the like. Thus it appears, that the bad results of the farmer's neglect in one season does not end there, but continues on through years to come. Who can look upon a field, in which the seeds have been suffered to grow up so thick as to hide from view all the edible plants that are growing there, and contemplate the results of such neglect, and not be forcibly reminded of the picture of the vineyard of the man void of understanding? That man is to be pitied, as well as censured, who neglects the culture of his field so much that passers-by, when they behold it, deride his name with taunts and jeers. It is the height of

folly for one to plant more than he can husband well; and he that does it, is like the foolish man who spread his thumb and finger to their utmost stretch to grasp the silver dollars, but let them slip and lost them all.

Harvesting potatoes. As regards the time, circumstances may make a difference. In seasons when the potato rot prevails, perhaps it would be best to let them remain in the ground as long as they are not in danger of being frozen. Then they will not be likely to rot afterward. But it is said by persons that have tried the experiment, that if they be dug on the first appearance of disease upon the vines, they will not be injured by the rot. In other seasons, the sooner they are harvested, after being fully matured, the better. If they remain longer in the ground, the vermin that infest the soil, will prey upon them; and those that are near the surface, will be injured by the scalding heat of the sun. This would render their flavor unpleasant, and render them unfit for food, except for swine. It is a mistaken notion, that potatoes after being dug, should lie for several hours with a bright sun shining upon them. For neatness' sake, a little drying to cause the adhesive soil to crumble and fall off, might answer some good purpose, but this will not improve their keeping qualities, nor yet their flavor. It would be better if the sun should never shine upon them. As regards the tools for digging potatoes, we can only say, that we have never found any one better than the potato fork.

Storing potatoes. They should be stored in some dark place, where the light of day will not reach them, and where the temperature is cool and even. This is nature's law, and it should ever be regarded; they grow in darkness, buried in the soil, and it would be better if they were always kept so. When one is short of cellar-room, there is no better place to keep them than in the sand, where frost will never reach them, and water cannot stand. We have never known them to keep

in better order than when kept in this manner, and this we might expect, for they are thus kept in the condition in which they grew, more than when kept in a cellar. This is following the course that nature has marked out. Her pages are ever open before us, written in legible characters, and they who are wise observe them, and regard their teachings.

HISTORICAL SKETCH OF THE ESSEX AGRICULTURAL SOCIETY.

BY BENJAMIN P. WARE.

The idea of the formation of this society originated with Col. Timothy Pickering, who, at the head of forty men, made the first armed resistance to British forces, February 28th, 1775, at North Bridge, Salem. He called a meeting of farmers, and other inhabitants of Essex County, at Cyrus Cummings' tavern in Topsfield, Monday, the 16th of February, 1818. Ichabod Tucker was chosen Moderator, and Daniel Cummings, secretary; these, with John Adams, Paul Kent, and Elisha Mack, were appointed a committee to report a plan of organization.

Timothy Pickering was chosen President, and William Bartlett, Dr. Thomas Kittredge, John Heard, and Ichabod Tucker, Vice Presidents, Leverett Saltonstall, Secretary, and Dr. Nehemiah Cleaveland, Treasurer.

Timothy Pickering was annually chosen President, for ten years to 1829; Frederick Howes, four years, from 1829 to 1833; Ebenezer Mosely, three years, from 1833 to 1836, James James H. Duncan, three years, from 1836 to 1839; Joseph Kittridge, from 1839 to 1841, two years; Leverett Saltonstall, four years, from 1841 to 1845; John W. Proctor, seven years, from 1845 to 1852; Moses Newell, four years, from 1852 to 1856; Richard S. Fay, two years, from 1856 to 1858; Daniel

Adams, from 1858 to 1860, two years ; Allen W. Dodge, three years, from 1860 to 1863; Joseph How, two years, from 1863 to 1865; William Sutton, nine years, from 1865 to 1874; and Benjamin P. Ware, ten years, from 1874 to 1884.

The Secretaries and Treasurers of the society, have been as follows :—

SECRETARIES.

David Cummings,	1818—1819.
Frederick Howes,	1819—1820.
John W. Proctor,	1820—1842.
Daniel P. King,	1842—1844.
Allen W. Dodge,	1844—1860.
Charles P. Preston,	1860.

TREASURERS.

Ichabod Tucker,	1818.
Daniel A. White,	1819—1823.
Benj. R. Nichols,	1823—1825.
Benj. Merrill,	1825—1828.
Andrew Nichols,	1828—1841.
William Sutton,	1841—1866.
Edward H. Payson,	1856—1881.
Gilbert L. Streeter,	1881.

There has been a carefully prepared address delivered before the Society, at its annual meeting, every year since its organization, except the five years between 1823 and 1829. These addresses have been delivered in every instance, by a citizen of the county, invited by a vote of the Trustees, and have been published in the transactions of the Society, and form a valuable part of the agricultural literature of the Society. Col. Timothy Pickering, delivered the first address in 1818, and again in February, 1820. The others were as follows:—

Andrew Nichols, in October, 1820.
Rev. Abiel Abbott, in 1821.
Rev. Peter Eaton, in 1822.
Hon. Frederick Howes, in 1823.
Col. Pickering, again in 1829.
Hon. James H. Duncan, in 1830.
Rev. Henry Colman, in 1831.
Rev. Gardner B. Perry, in 1832.
Dr. Jeremiah Spofford, in 1833.
Hon. Ebenezer Moseley, in 1834.
Hon. Daniel P. King, in 1835.
Hon. Nathan W. Hazen, in 1836.
Rev. Nathaniel Gage, in 1837.
Rev. Leonard Withington, in 1838.
Rev. Allen Putnam, in 1839.
Hon. Ashael Huntington, in 1840.
Alonzo Gray, A. M., in 1841.
Hon. Allen W. Dodge, in 1842.
Hon. Leverett Saltonstall, in 1843.
Hon. John W. Proctor, in 1844.
Rev. Edwin M. Stone, in 1845.
Hon. Moses Newell, in 1846.
Thomas E. Payson, Esq., in 1847.
Josiah Newell, Esq., in 1848.
Hon. Asa T. Newhall, in 1849.
Hon. Caleb Cushing, in 1850.
Rev. Milton P. Braman, in 1851.
Hon. Henry K. Oliver, in 1852.
Hon. Joseph S. Cabot, in 1853.
Hon. R. S. Fay, in 1854.
Dr. James R. Nichols, in 1855.
Ben. Perley Poore, Esq., in 1856.
Dr. E. G. Kelly, in 1857.
Dr. Geo. B. Loring, in 1858.
Edward Everett, in 1858.
Hon. J. J. H. Gregory, in 1859.
Rev. John L. Russell, in 1860.
Hon. Alfred A. Abbott, in 1861.
Geo. J. L. Colby, Esq., in 1862.
Hon Daniel Saunders, in 1863.
Hon. Darwin E. Ware, in 1864.
Nathaniel Cleavland, Esq., in 1865.
Hon. Otis P. Lord, in 1866.
Rev. R. H. Seeley, D. D., in 1867.
Dr. Geo. B. Loring, again in 1868.
Benjamin P. Ware, Esq., in 1869.
Hon. Benj. F. Butler, in 1870.
Hon. Joseph S. How, in 1871.
Hon. Wm. D. Northend, in 1872.
Rev. Charles B. Rice, in 1873.
John L. Shorey, Esq., in 1874.
Rev. Dr. E. C. Bolles, in 1875.
Cyrus M. Tracy, in 1876.
Rev. O. S. Butler in 1877.
T. C. Thurlow, Esq., in 1878.
Dr. Geo. B. Loring, again in 1879.
David W. Low, Esq., in 1880.
Dr. James R. Nichols, again in 1881.
Francis H. Appleton, Esq., in 1882.
Hon. Chas. P. Thompson, in 1883.

In connection with these addresses, fifteen original hymns, odes and songs, have been sung by selected choirs, and published in the transactions. There have also been published in the transactions of the society, (62) sixty-two prize essays upon various subjects connected with agriculture, for which has been paid premiums, varying from eight to twenty-five dollars each; also (42) forty-two prize reports of committees; premiums paid for these from six dollars to ten dollars; in addition there have been published, (626) six hundred and

twenty-six extended reports of committees, containing original ideas and suggestions, each filling from one to ten pages of printed matter.

These addresses, essays and reports, contain the best thoughts, the broadest experiences, and wisest suggestions of the most prominent farmers and professional men of Essex county, in the last sixty-five years, and make up, principally, the agricultural literature of the county.

The Essex Agricultural Society, unlike all others in the state, owns no grounds, including a trotting track and show buildings ; it has no local abiding place. But instead, owns a tent, some portable cattle pens, 1200 exhibition fruit dishes, an experimental farm of 150 acres, which brings an income of from $300 to $500 per annum, besides conducting such experiments as are required by the committee having that matter in charge. A library of 800 volumes of valuable books for reference and study, and funds invested in bank stock, the market value of which is $16,690.00.

This society needs no trotting track, for it never paid a dollar for speed since its organization ; or for any other attraction, nor allows any on its grounds, except of a purely agricultural or horticultural character, which must be grown or owned within the county. Domestic manufactures, and works of art from citizens of the county, receive the encouragement of the society. All stock competing for a premium must be owned in the county, at least four months previous. Agricultural implements, from any source, are admitted for competition ; no entrance fees required from any competitor for premiums. The whole of the exhibitions are open, free to the public, except for admission to the exhibition hall, where twenty cents is charged. An average sum of $3000 has been offered in premiums, annually for the last ten years, and since its organization, the society has, as near as can be ascertained, awarded in premiums and gratuities an aggregate of $44,271.54.

In addition, the society has supported three scholarships at the Massachusetts Agricultural College, through the entire course of four years, at fifty dollars each per year, and now has a premium of $100 offered for the best prepared student, who shall enter the college from Essex county, and continue through the four years' course.

This society holds its annual exhibitions in different parts of the county, where most needed, and where suitable accommodations can be provided. Since its organization, it has held its shows at Danvers, ten times; Lawrence, seven times. Six each, at Lynn, Topsfield, and Haverhill; five times at Georgetown; four each at Salem, Gloucester and Newburyport; three each at Andover and Ipswich; two at Peabody, one at Newbury, and two others in doubt. This society has held, since required by the State Board of Agriculture, twenty-five institutes, in different parts of the county where most wanted. At each meeting two sessions have been held, with a large attendance, and the subjects selected, discussed with much interest and satisfaction to the farming community, resulting in promulgating much practical knowledge, and a growing interest in the farm. Two trials of mowing machines, and other machines for making hay, have been organized and conducted by the society, and one of plows, and other implements for cultivating crops, each proved of great value to the farmers, and were a complete success. The whole number of members since its organization is 2,866, the present number now living, is 1,388.

The society publishes annually, an edition of 1600 copies of its transactions, containing from 120 to 220 pages, for distribution among its members and others.

The transactions published since the society's organization, make in the aggregate, 8,391 pages of valuable and interesting reading matter, and which are no inconsiderable part of the agricultural literature of the county.

REPORTS AND ESSAYS.

The committee upon essays, reports and statements, have considered the matters referred to them, and are glad to say that they were able to award the premiums offered by the society for essays and reports. The number of essays offered for consideration is usually so limited that it is often doubtful if the committee can find a sufficient range in topics and in method of treatment of the subjects, to warrant awards of premiums based upon intrinsic merit.

On this occasion it was fortunately otherwise, and the committee had no difficulty in bestowing the amounts placed at their disposal. The committee received and reviewed four essays, and awarded the first premium of $15 to Mr. O. S. Butler, of Georgetown, for an excellent paper upon the "Management and Training of the Family horse." This practical subject is treated by Mr. Butler in an interesting and instructive manner and embodies valuable suggestions, derived from his personal experience. Essays of which this can be said are of the highest order of merit, since matters which are both practical and experimental come most legitimately before the society for its encouragement.

The second premium of $10 was awarded to Mr. Gilbert Conant, of Ipswich, for his essay upon the "History and Cultivation of the Potato." This is an unusually well prepared paper, requiring no revision or criticism by the committee, and embodies a large amount of information upon this rather well-worn topic. The committee approved of the essay on account of its completeness and its literary merits, and not because it presents much that is new or novel upon the subject,—which, in fact, could hardly be looked for.

The third premium of $8 was given to Mr. Benjamin P. Ware, of Marblehead, for his "Historical Sketch of the Essex Agricultural Society." This paper will be found very interesting, by the members of the society, inasmuch as it presents in a concise and methodical form, an account of the society and its operations, from the beginning until the present time. All these facts have never before been brought together, and being now in a form to be preserved in the annual transactions, the committee thought that the paper—although not strictly an essay—was deserving of their award of the third premium.

In the matter of reports, the committee made the first award of $10 to Mr. O. S. Butler, for his report upon the comparative value of crops as food for cattle, etc. This is a discussion of the important question of ensilage, and taken in connection with a paper in the transactions of last year, makes a valuable contribution to the literature of this subject.

The second premium of $8 was given to Mr. T. C. Thurlow, for the report on underdraining land, which presents an exact statement of personal experience in this business, which, it is unnecessary to say, is one of great practical importance.

The third premium of $6 was awarded to Mr. Asa T. Newhall, for the report upon root crops. Mr. Newhall makes many interesting statements and useful suggestions, but seems to have written his paper in a hasty way, which has somewhat impaired its value.

The committee on behalf of the society take the liberty of thanking those who have contributed to the interest of the Transactions, by their Essays and Reports, and would solicit additional contributions of this kind another year.

GILBERT L. STREETER, *Chairman.*

N. M. Hawkes, D. E. Safford, C. P. Preston.—*Committee.*

FARMERS' INSTITUTES HELD BY THE SOCIETY IN 1882-3.

The 17th Institute was held at Plummer Hall, Salem, December 12th, 1882. It was opened in the forenoon, by Mr. J. J. H. Gregory, of Marblehead, with remarks on the question, Is special or general farming the more profitable in Essex county? In the afternoon, an address was made by Paul M. Chadbourne, President of the Massachusetts Agricultural College, on the subject of Agricultural Education. A discussion of each question was had.

The 18th Institute was held at Ipswich, January 9th, 1883. The subject in the forenoon was—Duties of the farmer to society, by Rev. Willard Spalding, of Peabody. Afternoon subject—Small Fruits, their cultivation and sale, by John B. Moore, of Concord. Discussion following.

The 19th Institute was held at Newburyport. Subject, in the forenoon—Diking and reclaiming Salt Marsh, by Benj. P. Ware, of Marblehead. Afternoon subject,—Development and training of the family horse, by O. S. Butler, of Georgetown; discussions following upon each subject.

The 20th Institute was held at North Andover, February 13, 1883. A. M. subject—Droughts, what lessons have the frequent droughts taught, and suggestions for the best water supply for crops and cattle, by J. J. H. Gregory. P. M. subject—Farmers Clubs, their aims and purposes. Are they beneficial to farmers? What is their influence on the county society? by Dr. William Cogswell, of Bradford; discussions following.

The 21st Institute was held at Plummer Hall, Salem, Tuesday, March 13, 1883. A. M. subject—Agriculture of Massachusetts. Addresses by Mr. John E. Russell, Sec'y Mass. Board of Agriculture, and Hon. Geo. B. Loring, Commissioner of Agriculture of the United States. Afternoon subject—Sugar, by Dr. James R. Nichols, of Haverhill; with discussions.

The 22nd Institute was a field meeting at the farm of Hon. Geo. B. Loring, Salem, April 17th, 1883, for the exhibition and trial of ploughs, harrows and manure spreaders, by the manufacturers and dealers, a large number of the members of the society and other farmers, being present.

CHAS. P. PRESTON, *Sec'y.*

Dr. GILBERT L. STREETER, TREAS., IN ACC'T WITH THE ESSEX AG. SOCIETY. Cr.

1882.					
Oct. 10.	To balance of previous account,....	$20 43	Sept. 1882.	By amount of Premiums and Gratuities awarded by the Trustees,.....	$1,916 50
	To Bank Dividends for October,.....	438 60		Bills paid on account of annual exhibition,	116 48
	To Cash received of Committee in charge of annual exhibition, ...	426 29		Bills paid on account of Treadwell farm,....	91 06
	To State Bounty received from State Treasurer,	600 00		Bills paid for Printing and Advertising,....	360 51
1883.				Rent paid Salem Athenæum,.....	25 00
Jan. 1.	To State Tax on Bank Stocks refunded,.....	241 21		Secretary's Account,.....	243 94
April 1.	To Bank Dividends for April,.....	436 60		Treasurer's Account,.....	53 26
May 2.	To rent of Treadwell farm received,.....	275 00		Interest on Temporary Loan,.....	9 55
	To amount received for new members,.....	123 00			
Sept. 30.	To amount of unclaimed premiums,..... ..	114 50			
	To Cash received on Temporary Loan,.....	140 67			
		$2,816 30			$2,816 30

FUNDS BELONGING TO THE SOCIETY, OCTOBER, 1883.

	Cost.	Market Value.
10 shares in Nat. Hide and Leather Bank, Boston,	$1,101 87	1,110 00
3 shares in Nat. Revere Bank, Boston,	377 62	351 00
18 shares in First National Bank, Salem,	1,914 66	2,160 00
18 shares in Salem National Bank, Salem,	2,000 00	2,160 00
42 shares in Asiatic National Bank, Salem,	1,281 25	1,890 00
12 shares in Mercantile National Bank, Salem,	1,226 50	1,440 00
23 shares in Merchants' National Bank, Salem,	1,189 50	1,495 00
5 shares in First National Bank, Danvers,	375 00	500 00
8 shares in National Exchange Bank, Salem,	800 00	960 00
16 shares in Warren National Bank. Peabody,	1,595 40	2,400 00
15 shares in South Danvers Nat. Bank, Peabody,	1,441 25	2,175 00
	$13,353 48	16,641 00
Less amount of Temporary Loan,	140 67	
	13,212 81	
Funds reported last year,	13,353 48	
Loss,	$140 67	

GILBERT L. STREETER, Treasurer.

Salem, Nov. 9, 1883.

SALEM, Dec. 14, 1883.

We have this day examined the foregoing account, and find the same to be correctly cast, and the vouchers and securities as stated.

JOS. H. PHIPPEN, BENJAMIN P. WARE, } Auditors.

OFFICERS OF THE SOCIETY.

FOR 1883-84.

PRESIDENT.

BENJAMIN P. WARE, of Marblehead.

VICE-PRESIDENTS.

GEORGE B. LORING, of Salem.
J. J. H. GREGORY, of Marblehead.
THOMAS C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

HONORARY TRUSTEE.

JOSEPH HOW, of Methuen.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

TREASURER.

GILBERT L. STREETER, of Salem.

TRUSTEES.

Francis H. Appleton, Peabody.
Reuben Alley, Marblehead.
Chas. C. Blunt, Andover.
O. S. Butler, Georgetown.
Wm. A. Brown, Hamilton.
Alden C. Estes, Rockport.
Zachariah Cole, Wenham.
Geo. W. Chadwick, Boxford.
O. Loring Carlton, Middleton.
E. G. Dole, Salisbury.
Andrew Dodge, Beverly.
Andrew Mansfield, Lynnfield.

George W. Gage, Methuen.
Charles H. Gould, Danvers.
J. Henry Hill, Amesbury.
Wm. H. Haskell, Merrimac.
Thos. O. W. Houghton, Saugus.
William Hilton, Bradford.
Gilbert E. Hood, Lawrence.
Jas. T. Johnson, No. Andover.
Aaron Low, Essex.
Thos. K. Leach, Topsfield.
Alfred L. Moore, W. Newbury.
*John P. Palmer, Swampscott.
John Price, Manchester.
Moses A. Plummer, Newburyport.
Joseph N. Rolfe, Newbury.
John L. Shorey, Lynn.
Abel Stickney, Groveland.
Frank P. Todd, Rowley.
J. C. Underhill, Ipswich.
Richard Webster, Haverhill.
Horace C. Ware, Salem.
Geo. M. Wonson, Gloucester.

NEW MEMBERS—1883.

Moses J. Bartlett, Salisbury.
J. H. Blunt, Andover.
N. A. Bushby, Peabody.
B. W. Bartlett, Rowley.
John F. Chesley, Salisbury.
Warren M. Cole, Boxford.
Sam'l Curtis, Jr., Gloucester.
Sam'l Cammett, Amesbury.
John S. Crosby, Methuen.
Jere'h Cashman, Newburyport.
C. A. Cooper, Salem.
M. G. Clement, Merrimac.
W. Christopher, Middleton.
Joseph S. Dodge, Rowley.
George A. Dow, Salisbury.
E. F. Danforth, Beverly.
T. C. Durkee, Peabody.
Wm. A. Foster, Beverly.
Elbridge S. Felch, Salisbury.
M. B. Faxon, Saugus.
Wm. H. Greenleaf, Salisbury.
Foster Gale, Salisbury.
Louis P. Hawkes, Saugus.
Mo's H. Harriman, Groveland.
D. L. Haggerty, Rowley.
Frederick Lamson, Salem.
Asa F. Lee, Beverly.
Henry C. Nevins, Methuen.
Andrew Nichols, Jr., Danvers.
Timothy O'Keefe, Peabody.
T. H. O'Neal, Danvers.
Franklin G. Phillips, Bradford.
Walter S. Peabody, Groveland.
Daniel Peters, Haverhill.
David Pingree, Wenham.
Wm. S. Phillips, Jr., Marble'd.
Chas. H. Preston, Danvers.
Dean A. Perley, Danvers.
Chas. A. Ropes, Salem.
John F. Smith, Salisbury.
Bailey Sargent, Merrimac.
Geo. D. Sargent, Lynn.
John A. Swasey, Salem.
Chas. P. Spencer, Salem.
Wm. B. Tibbetts, Salisbury.
Eben True, Salisbury.
J. Scott Todd, Rowley.
Patrick Tracy, Salem.

*Deceased.

LIST OF PREMIUMS.

City Farm, Salem, fat oxen, No. 1, first premium, 10 00
City Farm, Salem, fat oxen No. 2, second premium, 8 00
R. P. Brown, Peabody, fat cattle, third premium, 4 00

BULLS.

D. A. Massey, Danvers, Ayrshire bull over two years old, first premium, 8 00
A. P. Loring, Beverly, Guernsey bull over two years old, first premium, 8 00
George D. Sargent, Lynn, Jersey bull over two years old, first premium, 8 00
B. W. Crowninshield, Marblehead, Jersey bull over two years old, second premium, 4 00
Daniel Barrett, Salem, Jersey bull under two years old, first premium, 4 00
Thomas Sanders, Haverhill, Jersey bull under two years old, second premium, 2 00

MILCH COWS.

W. A. Jacobs, Danvers, milch cow, special premium, 15 00
John S. Ives, Salem, milch cow, Ayrshire, first premium, 10 00
John S. Ives, Salem, milch cow, second premium, 4 00
Timothy O'Keefe, Peabody, milch cow, Jersey, first premium, 10 00
Patrick Tracy, Salem, milch cow, grade, first premium, 10 00

HERD OF MILCH COWS.

Thomas Sanders, Haverhill, herd of cows, second premium, 12 00

HEIFERS—FIRST CLASS.

Thomas Sanders, Haverhill, milch Jersey heifer "Lady Birch," three years old, first premium, 10 00
Thomas Sanders, Haverhill, Jersey heifer "Effie Birch," sixteen months old, first premium, 4 00
Thomas Sanders, Haverhill, Jersey heifer, "Birch Breeze," seventeen months old, second premium, 2 00

City Farm, Salem, Dutch yearling heifer, second premium, 2 00
D. A. Massey, Danvers, Ayrshire heifer, "Crocus," 3d, thirteen months old, first premium, 4 00
D. A. Massey, Danvers, Ayrshire heifer, "Princess Wells," twenty months old, second premium, 2 00
J. S. Ives, Salem, Ayrshire calf, first premium, 4 00

HEIFERS—SECOND CLASS.

Joseph H. Blunt, Andover, grade Ayrshire heifer, (milch), first premium, 10 00
J. H. Perkins, Lynnfield, grade Ayrshire, heifer, seventeen months old, first premium, 4 00
T. C. Durkee, Peabody, grade Ayrshire heifer, second premium, 2 00
John Dane, Jr., Hamilton, grade Jersey calf, first premium, 4 00
B. H. Farnum, North Andover, grade Hereford calf, second premium, 2 00

WORKING OXEN AND STEERS.

J. J. H. Gregory, Marblehead, Durham oxen, first premium, 12 00
J. J. H. Gregory, Marblehead, Broad Horn, second premium, 10 00
Benj. H. Farnum, North Andover, oxen, third premium, 8 00
William Christopher, Middleton, steers, first premium, 10 00

TOWN TEAMS.

City of Salem, for ox team, first premium, 20 00
Town of North Andover, for ox team, second premium, 12 00

STEERS.

S. & N. Longfellow, Groveland, steers three years old, first premium, 8 00
J. Ralph Farnum, North Andover, steers three years old, second premium, 6 00
Henry Gardner, Peabody, steers yearling, first premium, 5 00

STALLIONS.

S. Endicott Peabody, Salem, stallion, first premium, 10 00

BROOD MARES.

H. H. Demsey, Wenham, brood mare, first premium, 10 00

FAMILY HORSES.

Charles Sanders, Salem, family horse, first premium,	10 00
O. S. Butler, Georgetown, family horse, second premium,	6 00
William Cogswell, Bradford, family horse, third premium,	4 00

FARM AND DRAFT HORSES.

Aaron Knowlton, Essex, first premium,	10 00
Jonas Rollins, Danvers, second premium,	6 00
Horace Ware, Marblehead, third premium,	4 00
Thomas H. Roberts, Gloucester, gratuity,	2 00

PAIRS OF DRAFT HORSES.

Calvin Putnam, Danvers, first premium,	12 00
Edward P. Perley, Danvers, second premium,	8 00
J. J. H. Gregory, Marblehead, third premium,	4 00

COLTS—FIRST CLASS.

Charles Sanders, Salem, colt, four years old, first premium,	10 00
L. H. Chase, Lynn, colt, three years old, first premium.	8 00
William Cogswell, Bradford, colt, three years old, second premium,	5 00

COLTS—SECOND CLASS.

William Cogswell, Bradford, colt, two years old, first premium,	6 00
John P. Palmer, Swampscott, colt, yearling, second premium,	4 00

SWINE—FIRST CLASS.

T. H. O'Neal, Danvers, Berkshire Boar, first premium,	8 00
S. E. Marsh, Lynn, Poland China Boar, second premium,	5 00
Danvers Lunatic Hospital, weaned pigs, first premium,	8 00
S. E. Marsh, Lynn, weaned pigs, second premium,	5 00
M. Bermingham, Salem, breeding sow, first premium,	8 00

SWINE—SECOND CLASS.

A. M. Trask, Danvers, small Yorkshire boar, first premium,	8 00
A. M. Trask, Danvers, sow, first premium,	8 00
A. M. Trask, Danvers, sow, second premium,	5 00
A. M. Trask, Danvers, weaned pigs, second premium,	5 00
John A. Swasey, Salem, weaned pigs, first premium,	8 00
M. Bermingham, Salem, boar, second premium,	5 00

SHEEP.

S. S. Pratt, Danvers, Cotswold Buck, first premium,	8 00
Danvers Lunatic Hospital, Cotswold lambs, first premium,	4 00
Thomas Sanders, Haverhill, Merino lambs, first premium,	4 00

PLOUGHING—DOUBLE TEAMS.

Benjamin H. Farnum, North Andover, first premium,	12 00
J. J. H. Gregory, Marblehead, second premium,	10 00

PLOUGHING—SINGLE TEAMS.

Charles J. Peabody, Topsfield, second premium,	5 00

PLOUGHING—HORSES, COMMON PLOUGH.

Walter F. Dodge, Beverly, first premium,	12 00
Thomas C. Durkee, Peabody, second premium,	10 00
R. S. Bray, Newbury, third premium,	8 00
J. J. H. Gregory, Marblehead, J. Gouger, plowman, fourth premium,	6 00

PLOUGHING—SWIVEL PLOUGH.

Wilkins Christopher, Danvers, with oxen, first premium.	12 00
Jonas Rollins, Danvers, with horses, first premium,	10 00
E. P. Perley, Danvers, with horses, second premium,	6 00

PLOUGHING—SULKY PLOUGHS.

Samuel S. Pratt, for Danvers Hospital, Cassady Plough, premium,	5 00
Whitcomb & Carter, Beverly, Reynolds' Plough, premium,	5 00

W. W. Perkins, Newbury, Underdraining Land, first premium,	15 00
H. F. Longfellow, Newbury, Experiment on Manures, first premium,	15 00
Richard Newell, West Newbury, Rye crop, first premium,	10 00
Aaron Low, Essex, Squash crop, first premium,	10 00
Daniel Carlton, North Andover, Cabbage crop, first premium,	10 00
J. W. Blodgett, Saugus, Beet crop, first premium,	10 00
H. F. Longfellow, Newbury, Onion crop, first premium,	10 00
H. F. Longfellow, Newbury, Potato crop, first premium,	10 00
Joseph Martin, Marblehead, Scholarship in Agricultural College, premium,	25 00
O. S. Butler, Georgetown, Essay, first premium,	15 00
Gilbert Conant, Ipswich, Essay, second premium,	10 00

Benjamin P. Ware, Marblehead, Essay, third premium,	8 00
O. S. Butler, Georgetown, Report, first premium,	10 00
Thomas C. Thurlow, West Newbury, Report, second premium,	8 00
Asa T. Newhail, Lynn, Report, third premium,	6.00

Awarded by Committee on Poultry,	29 00
" " " " Agricultural Implements,	29 00
" " " " Carriages,	18 00
" " " " Dairy,	39 00
" " " " Bread, Honey, etc.,	16 50
" " " " Fruit,	274 50
" " " " Flowers,	43 00
" " " " Vegetables,	162 00
" " " " Counterpanes, etc.,	36 50
" " " " Articles manufactured from Leather,	15 50
" " " " Manufactures, etc.,	10 50
" " " " Fancy Work, etc.,	49 25
" " " " Children's Work,	9 00
	$1470 75

RECAPITULATION.

FARMS.

Awarded to Ploughing,		$101 00

FARM STOCK.

Amount awarded to Fat Cattle,	22 00	
" " " Bulls,	34 00	
" " " Milch Cows,	61 00	
" " " Heifers,	50 00	
" " " Working Oxen,	40 00	
" " " Town Teams,	32 00	
" " " Steers,	19 00	
" " " Horses,	186 00	
" " " Colts,	33 00	
" " " Swine,	73 00	
" " " Sheep,	16 00	
" " " Poultry,	29 00	
		$495 00

FARM PRODUCTS.

Amount awarded to Grain Crops,	10 00	
" " " Root Crops,	50 00	
" " " Dairy,	39 00	
" " " Bread and Honey,	16 50	
" " " Fruits,	274 50	
" " " Flowers,	43 00	
" " " Vegetables,	162 00	
		$595 00
All other objects,		279 75
Total,		$1470 75

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TRANSACTIONS

OF THE

ESSEX AGRICULTURAL SOCIETY,

IN MASSACHUSETTS,

FOR THE YEAR 1884,

WITH THE

Sixty-Second Annual Address,

BY

HON. ASA T. NEWHALL,

OF LYNN.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.:
OBSERVER STEAM PRINTING ESTABLISHMENT.
1884.

ADDRESS.

Mr. President and Members of the Essex Agricultural Society—Ladies and Gentlemen :—In accepting the invitation from your Board of Officers to address you at this time, I am reminded that they have not adhered to that principle which has ever characterized their deliberations when making their allotments,—as it has been their established custom to recommend every man to his calling,—and they must acknowledge that they were aware that I am more accustomed to participating in that part of the day's program just witnessed on yonder field, (The Ploughing Match) than expounding on this momentous question of such vital importance to the interests of mankind. But having put my hand to "This Plough" I will not turn back, but accept the position with a due recognition of its honors; and as a farmer to an assemblage of farmers, I humbly ask your indulgence while I refer to a few of the essential requirements necessary for the advancement of agriculture, and briefly call your attention to a few of the many duties and responsibilities which devolve on us as citizens and farmers.

I repeat that your indulgence I crave; and may your criticisms be mild, for I realize that the duty solicited of me to-day is excessive, and that to one more experienced should have been intrusted the task to faithfully propound and digest the required information bearing on this important subject, before an audience whose motto has ever been —improvement. And for this hour's contribution, you,

Mr. President, and your associates, the Board of Trustees, by your overt act, are partially accountable in selecting for this duty, one who was taught to believe that he who by the plough would thrive, must know how to both hold and drive; and more to this attainment and its multitudinous associates have my energies been directed, rather than to literature.

The annual recurrence of this festive gathering has assembled us together to exchange congratulations and compare the results of another harvest. The season, marked by many peculiar proclivities, has amply rewarded our efforts in the abundance of its returns. And the skeptics, whose faith was languishing by the experience of the two preceding seasons, where the drought had been oppressive, now rejoice in the super-abundance with which their labors have been recompensed. And may we more fully acknowledge the sublimity of the rulings of an All-wise Providence whose marvellous hand is perceptible in all the works of nature, with which the farmer is brought in contact.

May this occasion be fraught with pleasant remembrances, as we recognize the familiar countenances of so many who have labored unremittingly for the welfare of this society, and as we meet to-day to celebrate the anniversary of this time honored gathering of our ancestors, may we commemorate to their memory by our deeds, our earnest appreciation of their endeavors to establish a society which for upwards of three score years has been spreading its beneficent influence on a circle not confined to our county limits, nor to the farmer's quiet abode, but exerting an ascendant power towards improving the condition and

attractiveness of the homes of many who have derived influential and lasting benefits from the lessons they have acquired by visiting our exhibitions. And to-day our exhibits are regarded by the connoisseur as being worthy of admiration and praise, and more especially, those contributions of art and delicate handiwork by the ladies; and this important feature is one worthy of the most liberal encouragement, inasmuch as it exerts a power for good in the home circle, and imbibes a spirit for the adornment of home, wherever that home may be, that will have a lasting influence on the minds of future generations.

And we should bestow a fitting recognition on the achievements of her who is the model of her sex, "the farmer's wife," whose contributions in the culinary and dairy departments are the envy of less dextrous hands; and whose felicity is never so complete as when interesting her children in the manifold duties of usefulness, and whose thoughts are ever centred in home, and from the nature of her often-times isolated surroundings, is ever on the alert to encourage a spirit of rivalry in the minds of her children, which may endear them to home or fit them for homes of similar usefulness. The varied duties and experiences of a life on the farm, with its many educational facilities from the works of nature, render it the rival of all competitors for moral influences.

Pardon me if the sketch is overdrawn, and consider, that what the equilibrium of the farmer's vocation lacks in financial returns, must justly be recompensed by superior acquirements in other channels; and that these qualifications are appreciated at their worth, is evinced by the frequent inquiry for suburban homes by those who have

retained a love for the attractions which the farm afforded them in their youth.

My love and esteem for the business of farming, dates back to my earlier school days, when I chose as a theme for a composition, "The Life of a Farmer." I well remember that my fancy then induced me to eulogize the calling, and my principal point then was, that the perplexities which ever assailed those engaged in professional or mercantile pursuits and the embarassments occasioned in collecting their bills, were affairs that gave the farmer but little concern, and were ample reason why the tilling of the soil was preferable to many other vocations. I may say that on more mature reflection and some experience, I under estimated the farmer's perplexities and others' incomes, and over-estimated others' perplexities and the farmer's income. Nevertheless we should bear in mind, that it is owing to a lack of the faculty of appreciation, that so many are dissatisfied with their surroundings and privileges.

To fully appreciate any improvement, one must have been "schooled" to battle with some disappointments, and by their own exertions extricate themselves in case of emergencies. My experience and observations attest, that to fully appreciate a level tranquility, we must have a test in climbing adverse paths, and to estimate the result of others' endeavors, we must by actual experience, acquire a knowledge of its worth to justly criticise its merits.

There is no occupation among men which furnishes a wider scope for observation of the complicated workings of nature, nor a more trying ordeal to test the endurance of man's nerve to overcome obstacles of a reverse tendency, than is experienced in farming. Yet withal :

The Farmer's trade is one of worth,
For partners he has sky and earth;
He also counts on sun and rain,
Yet for success, must use his brain.

He knows that millions to him look,
And crave a leaf from out his book;
And wonder much at his success,
While they spend all their funds for dress.

He's classed among the favored few
Who always find enough to do;
And while all others are bereft,
For work the farmer's seldom left.

He's had to ply the "laboring oar,"
To keep the "wolf" from many a door,
And's always found to help the needy,
While he's been ranked among the "seedy."

Men may rise, or perchance fall;
Nevertheless the farmer feeds them all.
And this is partly how 'tis done:
By patient toil from "sun to sun."

His motto's been to buy for cash,
And by this means avoid a "crash."
Adopt this plan, if you'd succeed,
And let economy be your creed.

It is a well authenticated fact that the success which has crowned the efforts of the farmer or is accredited to his "profession" is due to the exercise of that habit of economy which characterizes the name of American farmers, and which is an inborn trait handed down from our ancestors (which they of necessity were oftentimes compelled to practice), more than to its being a very lucrative occupation.

When we look around us with a view of ascertaining what legitimate business *pays* and are attracted to any special vocation as being particularly profitable, it may be well to study closely the qualifications of men who have achieved this coveted success. And the result of our in-

vestigations and inquiry will justify the assertion, that on the man's abilities depends in a great degree the solution of the question, what business will or will not pay. 'Tis true a man may succeed for a time, in some occupation for which he is not peculiarly fitted, but it is the rule and not its exceptions that governs the weight of influence. And what is true of other pursuits is still more manifest in farming, and it will be observed that the most successful farmer is he who enters with enthusiasm into the solution of all the varied and intricate problems that constantly arise. He should be thoughtful, observing, energetic, and in all branches of his work must keep a vigilant watch, as the atmospheric changes by which his destinies are partially shaped, will sometimes convert an apparent success into failure by his inattention. His labors are so varied, that his constant supervision of directions are necessary. He should be possessed of keen perception and unswerving mind. He should be an earnest and attentive student of the hidden things of nature, and yet may well take counsel by the achievements of others, but to be practical and progressive, should interest himself in solving by experiment many undecided and perplexing questions relating to the structure, growth and development of plants and animals, and furthermore he should have that regard for his calling which will induce him to impart to others the result of his observations and practices. And this thought suggests the mention of the benefits which have accrued to the farming community by the knowledge which has been diffused through the discussions in the "Farmers' Clubs and Institutes" throughout the state, which may well be termed an advanced school for farmers. Yet a school of this kind

(like the noblest of American institutions the common school system), will impart a knowledge in proportion to the ambition and zeal of its teachers and scholars.

This representative body (comprising the interests of that occupation which is oftentimes granted the fame of being the most dignified, upright and ennobling in its influences, of all employments among mankind), is a symbol of the esteem which is placed on agricultural pursuits by the Essex County farmer.

One of the *most* serious and annoying perplexities which the farmer encounters, and one which he cannot readily overcome, is to secure competent help. While this exigency is partially overcome by bringing into use the different kinds of farm implements and machines which have so multiplied, that we now avail ourselves of the advantage which they offer for cultivating larger areas, yet the supply of farm help not only falls short of the demand, but the quality in many instances is deficient, as the use of machinery requires men more competent.

The tempting inducements for a life of gayety which the industries of our cities and large manufacturing towns in the county afford, attract the volume of the most skilful laborers who seek our shores for employment. They realize that farming means hard work and plenty of it.

Perhaps I should more fully express our unanimous sentiments, if I correct this last statement and say that *we* realize that farming means work, but we employ many that do not show by their labors *their* realization of this fact. It is to be deplored that more men do not seek employment on farms when many other branches of business are being run on one-half or three-quarters time.

While there is no remedy for the length of the days on the farm, and the occupation is somewhat confining, nevertheless, to the laborer who clings to the farm with its tranquil calmness, away from the temptations and evil associations of city life, success is certain. And to him no credentials are more valuable when seeking employment than a testimonial that he has previously made good use of his earnings. My experience justifies me in stating that as a rule such men are worth from twenty-five to fifty per cent. more for labor than is the spendthrift.

When we consider that so many industries must draw (indirectly if not directly) their sustenance through different channels from the products of the soil, it should infuse in the farmer's mind a dignified sense of the trust which is confided to man to-day to keep and dress his garden as God commanded Adam as of yore. And to faithfully maintain the supremacy of this first command to man, is also the duty which the farmer owes to his fellowmen, who in the pursuit of other employments, look to him whose occupation is to bring forth from the soil by his skill and knowledge, its inert and dormant qualities, to help crown the earth with verdure and furnish our tables and the markets with its fruits in abundance. And it should be an incentive to increase our desires for participation in furthering the interests of every improvement, when we consider that he who makes any fixed reformation toward increasing the productiveness of the land intrusted to his care, is a public benefactor.

Is agriculture keeping pace with other pursuits?

Are our farmers equal to the responsibilities which devolve upon them?

Are we to hold our own against the tide of outside competition? are questions which are frequently propounded. And separately and collectively, I answer, yes.

The reputation which the *Essex County Farmer* enjoys of being an adept in his calling, is due to the spirit of enterprise with which the business has been pursued by successive generations of farmers, who to-day till the "acres" in many instances of their ancestors, more than to the natural fertility of her soil—yet the quality of her productions is unsurpassed by any section of the country. It may be truly said that it is the natural, yes and original, home of a vast variety of vegetables and fruits. There have been more choice varieties of vegetables originated within her borders than in any area of equal proportions in the State. There is not a State in the Union but what receives consignments of seeds produced here, and their exalted reputation for superiority is unexcelled, and it is generally conceded that seeds produced in the latitude of their origin, are the most reliable for all sections.

Let us bear in mind the fact that on the prosperity of one industry depends the success of another, and that one grand secret of the improved agriculture of the County, is in the extent of the demand for all kinds of farm products in the cities and large manufacturing towns which are so well distributed among us, which is due to the enterprise of the manufacturer, and no section comprises greater resources for obtaining the necessary fertilizing materials to restore and increase the fertility of our farms. And this broad subject of fertilization—how and where to be obtained and how and when to be applied—is one of the fundamental questions which requires much thought and

experience to justify the acceptance of any rule. And this problem has continually perplexed the New England farmer. And in these times of sharp competition, when we are battling for supremacy with the West with its boasted fertility, let us not waver, for by perseverance we shall conquer, for at no distant day, under their system of cropping, their fertile fields will become so impoverished that *they* will be compelled to resort to methods of restoring her wasted fertility. Yet, while we must combat with their productions, we must recognize the fact, that while they are depleting their lands, the Eastern farmer is reaping some benefits in fertilization from the consumption of their productions.

The importance of husbanding every available source of fertilization has often been urged, and it still remains a question of great import.

I believe that the liquid manure from Neat Stock is worth as much per animal as the solids, if properly saved and applied. Yet, how common an occurrence it is to see on many farms, little regard paid to utilizing this store of wealth, while at the same time, much labor is expended in carting manures of an inferior quality. Every stock farm should be *well* provided with an ample supply of some material to be used as an absorbent. There is a diversity of opinion in regard to the value of peat lands (which abound in the county), for cultivation, and also the value in the muck, which can be made available as an absorbent by allowing it to "ripen" by the action of the frost before hauling to the cellar or barn and by its use increase the fertility of the lighter soils, exerting its beneficial influences by accumulating and retaining moisture until absorbed by

the growing plant. The quality of these deposits may vary equally with the difference of opinions as to their value. Having had some experience in the use of this material, I am willing to be recorded as advocating its extended use, where it can be readily obtained. There are many farms where the cost of digging and carting is more than counter-balanced by the improved drainage, which cannot be accomplished on such lands economically, otherwise than by open ditches. By thorough drainage pursued in this way I have been enabled to produce most varieties of field crops on land from which I had previously been obliged to remove the hay before it could be cured, owing to the accumulation of surface water.

The farmer, who by experience has learned the value of manure, views the accumulating heaps with the same degree of pride with which he surveys the provender in the well filled barn, and comprehends that the liberal use of the former bears the same relation to the growth and development of the plant, that the latter does to his herds, and that the perfection of either is accomplished only by feeding with a liberal hand.

Between the animal and vegetable kingdom there is an impressive analogy that is very perceptible to the observing eye, notwithstanding there is a vast difference between a sentient and a vegetable being; yet, as regards their requirements for food and growth, and their habits in life and death, there is a *striking* resemblance. Without food either will perish, and it is equally, if not more, important that we should know how to furnish this food understandingly to act in harmony with the wondrous economy of nature, as it is to procure it.

I have often been impressed with the thought, that we frequently neglect our interests, by not studying more closely the demands of the market; for it is as true in this, as in other pursuits, that fashions are to be regarded to keep apace with the times, and there are fashions in fruits and vegetables as well as in dress, and it is a most important feature in this as in every business to cater to the wants of the trade, by producing the best varieties, or those which are acknowledged by the dealers as ranking foremost in quality and perfection of beauty; and it is very important to keep this in mind when purchasing seeds. Sometimes a variety may possess true merit, yet because it has not been thoroughly introduced to the trade, must be disposed of at a discount.

How often it must have occurred to you, that farming differs in its fundamental principles from most other pursuits, inasmuch, that while the manufacture of cheap grade goods of many industries is to the producer the most profitable, yet to the cultivator of the soil the reverse of this is a rule which never allows of exceptions. Therefore he should adopt this plan, *never* to cultivate more acres than he can thoroughly fertilize. There are most certainly many reasons why it is consistent to concentrate our forces on smaller areas than has often been the custom, for the quality of most field crops is improved in proportion as the quantity per acre is increased, and in proportion as the quality is improved, in the same ratio will the price increase, and equally as satisfactory is the consolation of having your products sought by the market rather than have them go a begging for a purchaser; and the cost for the cultivation on land in high tilth is not over seventy-five

per cent. of what is needful for the same crop under reverse conditions; and the ravages of the innumerable insects, which prey on the crop, while man prays to have them not, is partially overcome by high tillage; another forcible motive which should determine us to forsake this niggardly method of coveting more acres than we can manage intelligently, is, that the excessive valuation, and high rates of taxation (to which the farmer is oftentimes unjustly subjected), will devour a small crop. The saying, that two things in this world are certain—death and taxation—presents a gloomy outlook for the farmer when he ponders upon the fact that the methods of levying taxes discriminate between his acres and his neighbors' interest-bearing bonds.

Do not misconstrue remarks of this nature as equivalent to a desire to deprecate taxation. On the contrary, I consider that the farmer can reap benefits if the funds are intelligently and *judiciously* expended which may amply repay him for his contribution of more than his share. I say judiciously, but not extravagantly expended. It is *injudicious* expenditures in town and city affairs which are the indirect leaks and drains on the farmer's purse as much as though the waste occurred in his barnyard as a direct loss.

The suburban resident or farmer must contribute to the maintenance of *many* public departments which furnish him no protection or advantages. He should therefore manifest a deep interest in those affairs which more directly pertain to his welfare, prominent among which is the building and repairing of the public roads; and their oftentimes neglected condition causes much annoyance, discom-

fort and expense that could in a measure be obviated if precautionary steps were taken when building new roads, and more regard paid to selecting competent persons to supervise the work of repairs. If there is any one thing that enhances our farms more than another, it is in having good roads at all seasons of the year (which in many places cannot be found at any season.)

Would not the expenditure of a larger appropriation for this purpose be *economy*, when we estimate the comfort and saving to man and horse in our daily travels?

Can you claim that if the same policy was carried into other departments, that what devoured the "small crop" would annihilate a large one?

I protest that we may economize by slightly increasing our appropriations and vigilantly selecting our supervisors in all municipal departments: and this should demonstrate that every tax payer should interest himself in public affairs.

It is a trite saying, that what is everybody's business is nobody's affair. And the importance of attending and attesting to all matters pertaining to the welfare of local interests is everywhere apparent.

The great drawback which has manifested itself when we would exert our influence, has been that we were deprived of, or else neglected our opportunities for a better education in our younger days, and this want or need of education is a barrier that must be overcome before we can parry with those who have less at stake, but wield their power oftentimes to our detriment. Therefore let us not complain of the cost, but rather encourage every feasible advancement toward improving methods for educating our children,

that *they* may be inspired with that confidence which a liberal education will give.

While it is *directly* the voice of the many that controls the governing power, it is *indirectly* by the influence of a few; therefore it is the duty of every loyal American citizen to encourage a most liberal system of education, which is the enlightening power that expands the intellect and forms the groundwork for intelligent and grand impulses.

As the multiplying industries must have ample scope for expansion, and be judiciously fostered and encouraged, the inevitable result will be that the well tilled acres of many a farm must succumb to this incursion, and will,—even now are,—being converted into prosperous villages. And at no distant day, from necessity, the Essex County farmer must increase the productiveness of his remaining acres, or seek new fields. No section is more abundantly favored for the adoption of the latter course, (as well as the former), than this of Essex County, which possesses an inestimable opportunity for utilizing thousands of acres of marsh land, which can be made available for tillage purposes for the production of all field crops by systematic diking and draining. That this has been accomplished in Plymouth County is well known to most of you, and is claimed to have the natural fertility of the best prairie lands of the West. I have had an opportunity of viewing the effect where this method has been pursued, on a limited scale, by some of our Essex County farmers, and the result has been very satisfactory. But as I have already remarked of some other characteristics of this avocation, success crowns the efforts of the determined and systematic, and all the recorded failures of experiments in cultivating diked lands

are owing to want of energy or lack of knowledge as to the requisite methods essential for the cultivation of lands which require drainage.

As I have discoursed on the practical farmer, a thought arises that I have a duty devolving upon me at this time which necessitates my making reference to the fancy farmer, who should receive due regards for his commendable undertakings and the lavishness with which he spends the fortune he has accumulated from more remunerative business. It furnishes him an opportunity of keeping the currency in active circulation, and many are directly and indirectly benefitted thereby, and no man honors his good intentions more than I do.

There is a pleasurable feeling of contentment to the owner in viewing the attractive features with which he has embellished his surroundings, and it should inculcate in the minds of all observers a desire for improvement. But who of you ever heard of any sane man engaging in any business except farming simply for the *fun* it would afford him? yet there are many who seek recreation in this way.

Although it is a disaffection to the most of us to be harassed in our business by competitors who are farming on the profits of some other business, yet we accept it with a good grace, and I make mention of it at this time simply to counterbalance the statements which have often been made as to the advantages to be derived where a fancy farmer locates in your midst, by observing the workings of new and improved methods which he will adopt. I should as soon expect to gather "grapes of thistles," as gather information from this source; and the lesson you will learn will lessen your income, unless you profit by his attempts

and failures. Many have not conceived the true relation which exists between the fancy farmer and the practical farmer, who must draw his sustenance from the soil, and whose aim is *not* solely for the pleasure it affords him.

For instance, *you* have a farm adjoining his, and the Assessors will tell you that it is more valuable than formerly, owing to the improved surroundings, consequently your tax increases; yet your farm is worth no more to you as a means of getting a living. You send your teams to "town," where you have purchased manure for the past ten years, and you receive word that your neighbor, "the fancy farmer," has offered nearly double what you were paying, and is satisfied with six feet for a cord. The men in your employ whom you were paying current wages, have been informed that your neighbor wants help, and will pay five dollars per month more than you are paying them; consequently they strike for higher wages, or perhaps quit. You fill their places with other men, at a loss of time and money consequent in learning the routine duties to which they must become accustomed. When, lo! they discover that at six P. M. your neighbor's men are kicking football; that while your men are doing the milking in the morning, your neighbor's men are not out of bed, for he keeps but a few imported Jerseys, with more pedigree than constitution, and as they are kept more for adornment than profit, it is unnecessary to milk them until after breakfast. But if you have money enough left after paying your increased taxes, to buy what little manure he has not secured, and can quell the spirit of disquiet among your men (which will naturally arise), long enough to perform your work in that thorough manner which has been

your wont, you need have no anxiety about his being a competitor in your market, for in this particular he will seldom be a rival, for he will have but little that would be classed as merchantable. Such is my acquaintance with the fancy farmers whose designs are pleasure and not profit.

Friends and Brother Farmers: Our duties to church, to society, to our children and to ourselves, are vast, almost incomprehensible, and our wants are many; yet again let me repeat that the present generation of Essex County farmers are under obligations and stand indebted to those honored men who conceived the worth of the benefits which would accrue, not only to those who have been actively instrumental in the management of conducting its exhibitions, but to the multitudes which assemble on such occasions to observe its moral workings, which have ever characterized its enobling influences and spread far and wide the reputation which this grand old society enjoys of being what its name implies a *cattle show and fair*, conducted on far different principles from many—aye most—agricultural exhibitions of our State and Country, and by its itinerating method of visiting different sections of the County has thereby kept aroused the interest in all sections which is so manifest on our grounds to-day; and the mutual bonds of the most extreme sections are by this course cemented with the more central, and by uniting with the local organizations and "Farmers' Clubs" (which have been the outgrowth from this, its aged parent) has thus been enabled to maintain its position as an envied rival, redeeming all its pledges, and aiming to increase its liberal list of premiums, and is yearly enlarging in every new field of enterprise which is adjudged worthy, and

adopting every improvement which will elevate its standard and tend to make its annual exhibitions morally instructive, entertaining and profitable to all within its borders. And to-day it stands enrolled as the only Agricultural Society in the state which offers to its young men an educational premium for the most thoroughly prepared student in the county, who may seek admission to that Institution which has so overcome opposition that its success is assured, and I deem it not incredible to predict that its future will be crowned with opulence, and that it is destined to improve, if not revolutionize, the agriculture of the country; I allude to the State Agricultural College.

Mr. President, while you and I appreciate and enjoy a good horse and accord him that supremacy which his inestimable usefulness deserves, may we rejoice that the fame and name of this Society (by its records) has never been tarnished by offering premiums for a horse trot. That its object has ever been to show by its exhibits some method of improving the Agricultural, Mechanical and Manufacturing interests of the community, and spreading an educational and moral influence which can never be accomplished where we exceed a three minute gait.

Let it be a monument to the memory of our fathers, aye and our grandfathers, that we have thus far retained *so much* of its early characteristics, and while our every endeavor is toward improvement, may our united wisdom never attain that lofty height, which shall recognize horse-trotting as being essential to the success of an *agricultural exhibition*. And as we esteem and cherish the memory of our predecessors who have so wisely guarded our welfare, may we hope that that regard which I have expressed for

them, may influence our children, yes and our children's children, that when they shall meet, as *we* now meet, may the solicitude which has been manifested for improving the welfare of this organization be appreciated, and may they so esteem its heritage, that its present policy may ever be maintained, and may they so comprehend the true object for which this society was organized, that the increasing passion for amusement which so prevails will never eclipse their desires for the advancement of true and progressive intentions, for the promotion of the cause of agriculture and may the dignity which has ever characterized these annual festivities always be cherished.

Let us, as an enterprising body, encourage every industry that merits recognition, but in our endeavors for promoting the welfare of all, may we "hold fast to that which is good," and may the sun in its course shine condescendingly on every ardent impulse which shall be manifested for improvement.

In concluding, I aver that it is a well authenticated fact that with all the modern appliances that have cheapened farm productions, the farmers during the last decade have not reaped their proportionate part of the profits, and it is to be regretted that there has not been a more improved method adopted for disposing of our products, that the consumer may reap some of the benefits of over-production, and not be engulfed by capitalists, companies, corporations, rings and monopolies; and they also dictate terms to the masses and offer as proof of their justification in continually reducing the remuneration for honest labor to a mere pittance, that the cost of the necessaries of life are reduced in proportion.

Who are they who have reduced this cost of sustenance?

You, Brother Farmers, by your labor, skill, perseverance, ambition, economy, integrity and loyalty have thus been the benefactors; and may legislation become so enlightened by these *same* qualifications, that the yoke of oppressive and dishonest measures may be carried by those who have received the benefits of unjust transgression. And may a reform be kindled that will not recognize the usurpation of the rights and privileges of the farmer.

Honor to whom honor is due: And it is to the credit of the farmers of New England, that we now see the prosecution of food adulterations so persistently followed up, for it was the unanimous solicitation of the New England Milk Producers' Association that the authority and absolute control of the State appropriation be vested in the State Board of Health, to prosecute the adulterators of milk. The benefits of this course are already perceptible, and if steadily pursued will result in promoting the welfare of producer and consumer.

I deem it no trifling honor, that during the past week I was charged by some of the milk dealers of the city of Lynn, of having been the means of hastening the vigorous prosecution of milk adulteration in that city. Would that the accusation were more merited, for he who can lay claim to this credit is indeed a benefactor.

Fellow Citizens: The demand for the fruits of our labor in all departments must constantly increase, and the firm basis on which our Republic rests should inspire us to adhere loyally to the true principles of this land of free institutions; and let us aim to encourage a spirit of emulation, but at the same time foster a benevolent sensibility,

for the advancement of all good works. And may we be susceptible of the importance of duly admitting and appreciating the many advantages which lie within our grasp; and may it be a solace for all discontent, that *no* section affords greater attractions for the gratification of every desire to engage in business or pleasure, than can be found within the borders of our County.

SIXTY-FOURTH

ANNUAL CATTLE SHOW AND FAIR.

The Cattle Show and Fair was held September 23d and 24th, 1884, at the "Willows," Salem.

The exhibition of Stock, &c., on the Fair grounds was creditable in most of its features, but somewhat deficient in stock, owing in some measure to the threatening aspect of the weather on the first morning.

The Peabody Academy of Science and the Essex Institute—county institutions—as last year, united with the Agricultural society in the exhibition in the hall, which was very fine as a whole, and superior in some respects to any preceding.

The following are the number of entries in the several classes.

STOCK, ETC.

Fat Cattle,	2	entries.
Bulls,	12	"
Milch Cows	18	"
Herd of Milch Cows,	2	"
Heifers, First Class,	15	"
Heifer Calves, First Class,	5	"
Heifers, Second Class,	14	"
Heifer Calves, Second Class,	2	"
Working Oxen and Steers,	13	"
Steers,	1	"
Steer Calves,	2	"
Town Teams,	1	"
Breeding Mares,	8	"

Family Horses,	6	"
Farm and Draft Horses,	9	"
Pairs of Draft Horses,	6	"
Colts, First Class,	1	"
Colts, Second Class,	2	"
Swine, First Class,	7	"
Swine, Second Class,	7	"
Sheep,	2	"
Poultry, First Class,	8	"
Poultry, Second Class,	17	"
Ploughing,	17	"
Agricultural Implements, &c.,	9	"
Carriages,	7	"

IN THE HALL.

270 plates of Pears; 157 of Apples; 76 Peaches, Grapes, etc.; 510 lots of Vegetables and Seeds; 5 of Butter; 27 of Bread, Honey, etc.; 121 of Flowers; 134 entries of Carpeting and Rugs.

11 of articles manufactured from Leather; 24 of Manufactures and Merchandise; 360 of Fancy Work and Works of Art; 16 of Children's Work.

CHAS. P. PRESTON, *Sec'y.*

REPORTS OF COMMITTEES.

FAT CATTLE.

The Committee award to Salem City Farm for a pair of cattle weighing 4685 lbs., first premium, $10. To the same for a pair weighing 3665 lbs., second premium, $8.

Joseph Akerman, G. E. F. Dane, J. E. Bradstreet.—*Committee.*

BULLS.

The Committee award for "bull of any age or breed, with five of his stock best adapted to the Agriculture of the County":—

To Benj. P. Ware, Marblehead, for Ayrshire bull, first premium, $12.

To D. A. Massey, Danvers, for Ayrshire bull over two years old, first premium, $8.

To D. F. Barrett, Salem, for Jersey bull over two years old, second premium, $4.

To Stephen K. Fowler, Boxford, for Jersey bull under two years, first premium, $4.

To Wm. A. Russell, Lawrence, for Holstein bull under two years, second premium, $2.

Chas. Perley, Aaron Knowlton, Peter D. Smith.—*Committee.*

STATEMENTS OF B. P. WARE.

Thorough bred Aryshire bull Joseph Douglas, with five of his get over one year old. He was dropped June, 1879; bred by B. J. Stone, Westboro; Sire, Prince Charlie No.

1689. G. S. Trim Douglas, G. G. S. Eglington, imported; Dam Julia McGregor No. 4630. A premium Heifer gave 40 lbs. per day with second calf.

Jersey bull named Marblehead, No. 6403, herd register of the American Jersey Cattle Club; Sire, Double Prize, No. 3117; Dam, Elvira of Oakland, No. 6606; Bred by D. F. Appleton, Ipswich; he was dropped Aug. 11, 1881.

MILCH COWS.

The Committee on Milch Cows would report that there were seventeen entries for premiums which were awarded as follows:—

Special premium of $15 to Andrew Dodge, Beverly, for best Milch Cow of any age or breed. Best record of milk, first premium, E. F. Rowell of Salem, $10. Second premium of $4 to J. S. Ives of Salem.

HOLSTEIN.

First premium $10, to W. A. Russell, Lawrence, for cow, "Lady Battels." Second premium of $4 to Wm. A. Russell of Lawrence, for cow, "Lavinia 2nd."

Several other cows were entered that were worthy of attention, but the owners failed to comply with the rules of the Society.

Daniel L. Russell, Joseph Hale, John Meacom.—*Committee.*

STATEMENT OF ANDREW DODGE.

To the Committee on Milch Cows:—

I enter for the special premium for the best Milch Cow. Dropped her last calf Nov. 25, 1883; is due to calve Dec. 6th, 1884.

Her record for the year is as follows :—

From Nov. 25, to Dec. 31,	20 qts. per day—		720
Jan.	18½ qts. per day,		574½
Feb.	17½ " "		507½
Mch.	16 " "		496
Apr.	15¾ " "		472½
May	15 " "		465
June	14¼ " "		427½
July	10 " "		310
Aug.	4 " "		124
			4097.

Her feed in winter was fresh and salt meadow hay, oat and corn fodder, with from two to four quarts of grain per day. Summer feed—a poor pasture, some green corn fodder, with less than three quarts of grain per day. No grain during the time when not giving milk.

ANDREW DODGE.

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows :—

I enter for premium my thorough-bred Holstein cow, " Lavinia 2d," five years. Holstein Herd Book 1115. Dropped her last calf Sept. 10, 1884. From Sept. 12th to Sept. 23d, she has averaged 45 lbs. milk per day.

Lady Battels, 5 years old, Holstein Herd Book, 1064. Dropped her last calf Nov. 18, 1883 ; due to calve Oct. 20, 1884. For the month of Dec. 1883, she averaged 54½ lbs. milk per day ; is now milking 14 lbs. per day.

The winter feed for each cow is 4 qts. of shorts and 2 qts. corn meal, with what ensilage they will eat up clean. Fed at 7 A. M., at 2.30 P. M., they have same quantity of grain as above, fed dry , after watering, also, a dry fodder of good hay, corn or oat fodder thoroughly mixed ; watered twice a day. Summer feed is pasture, with four qts. shorts and four qts. corn meal, corn fodder night and morning.

STATEMENT OF EDW. F. ROWELL.

To the Committee on Milch Cows :—

I enter for premium one grade Cow, aged 6 years.

Dropped calf June 6, 1883 ; gave 18 qts. of milk per day for three months, averaged 15 qts. per day for the next three months, and 9 qts. for the 3 months following. Was milked regular up to 5 weeks of calving. Dropped her last calf April 16, 1884 ; has averaged 16 qts. milk per day up to Sept. 23, 1884. Entire quantity of milk from April 20th to Sept. 23d, 1884, has been 2417½ quarts. Her feed has been hay and grass.

STATEMENT OF JOHN S. IVES.

To the Committee on Milch Cows :—

I enter my grade Holstein Heifer, four years old last May. She was bred between the Durham and Holstein. She dropped second calf April 30th, and ten days from calving she milked 21½ qts. per day. The last week in June she milked 147 qts. or 21 qts. per day ; she is now giving 16 qts. per day and is due to calve April 22. Her feed in summer is inferior pasture, with thirty cows: and four qts. shorts per day.

HERD OF MILCH COWS.

The Committee on Herd of Milch Cows, report two entries for premium. One by Mr. W. A. Russell of North Andover.

Mr Russell exhibited a herd of 5 thorough-bred Holstein cows. A herd that any Essex County farmer might well be proud of. Mr. James C. Poor, Mr. Russell's foreman, presented us with a very carefully prepared statement, showing just what milk each cow had given by actual weight ; the milk being weighed at each milking, which, in our judgment, is the only correct way of testing a herd.

Your Committee were very much pleased with the appearance of the herd and with their remarkable record, especially that of Maid Marion, which would be quite hard to equal. Yet, could we not, by the purchase of two or three thorough-breds to start with, and by years of perseverance in careful breeding and liberal feeding, arrive at, and perhaps far surpass, even this wonderful record. Your Committee were of one mind in awarding to Mr. Russell the first premium of $18.

The second entry was made by the Superintendent of Salem Almshouse, Mr. Frank Barker.

Mr. Barker exhibited a herd of five grade Holstein cows, with statement. They have given a fair quantity of milk, and were nice stock, but did not appear to have had the care that we should expect from a public institution. They were badly scarred from being hooked, and one of them had lost the use of one teat. But, after considering the matter, although somewhat divided in opinion, we awarded them the second premium of $12.

F. P. TODD, *for Committee.*

STATEMENT OF FRANK BARKER FOR SALEM CITY FARM.

I enter a herd of five grade Holstein cows. Feed from the middle of April to the middle of May, 4 qts. of meal and 4 qts. of shorts per day. From that time to Sept. 1, pasture feed; in Sept., 2 qts. of meal and 4 qts. of shorts were fed.

Amount of meal 23 bushels at 60 cents,	$13.80
" " Shorts 700 lbs.,	7.00
Total,	$20.80

PRODUCE.

From the middle of April to the middle of Aug. 16 qts. of milk per head, 9760 qts.

From that time to the middle of Sept., only four giving milk, 1610 qts.

Total, 11470 qts.

STATEMENT OF WM. A. RUSSELL.

I enter for your consideration, my thorough-bred Holstein cows.

Maid Marion,	No. 181	Holstein,	H. B.
Princess Dagmar,	255	"	"
Maid Fairfax,	377	"	"
Maud Clay,	390	"	"
Jenny Clay,	341	"	"

Maid Marion dropped her last calf			Dec. 1, 1883.
Princess Dagmar,	"	"	Nov. 3, 1883.
Maid Fairfax,	"	"	Feb. 11, 1884.
Maud Clay,	"	"	Feb. 27, 1884.
Jenny Clay,	"	"	Feb. 28, 1884.

Their milk record, which was determined by weighing, and recorded at each milking, is as follows :—

Maid Marion,	from Dec. 1st	to Aug. 1st,	204 days,		11387 lbs.
Princess Dagmar,	" Jan. 3,	"	211	"	8396½ lbs.
Maid Fairfax,	" Feb. 10,	"	173	"	6567½ lbs.
Maud Clay,	" Mar. 1,	"	153	"	6663 lbs.
Jenny Clay,	" Mar. 1,	"	153	"	6104 lbs.
			894		39118 lbs.

Total product, 39,1118 lbs., an average of 43.76 lbs. per day.

Their winter feed has been, eight quarts of shorts and four quarts of corn meal each per day, with ensilage once a day and dry hay with some corn or oat fodder mixed with it, once per day ; fed and watered twice a day. Their summer feed, besides the pasture (which is a short one) has been, up to the first of July, 2 qts. of corn meal in the morning and 4 qts. of shorts and a feed of hay at night.

Since that time they have had 2 qts. of corn meal in addition to the above, and oat or corn fodder morning and night.

Respectfully submitted, WM. A. RUSSELL,
By J. C. POOR, *Manager.*

HEIFERS—FIRST CLASS.

The Committee award to:—

B. P. Ware, Marblehead, Ayrshire, in milk, first premium, $10.

D. A. Massey, Danvers, Ayrshire, in milk, second premium, $4.

D. A. Massey, Danvers, Ayrshire, one year, first premium, $4.

D. A. Massey, Danvers, Ayrshire, one year, second premium, $2.

B. P. Ware, Marblehead, Ayrshire calf, first premium, $4.

D. A. Massey, Danvers, Ayrshire calf, second premium, $2.

Wm. A. Russell, Lawrence, Holstein, in milk, first premium, $10.

Wm. A. Russell, Lawrence, Holstein, in milk, second premium, $4.

Wm. A. Russell, Lawrence, Holstein, one year, first premium, $4.

Wm. A. Russell, Lawrence, Holstein, one year, second premium, $2.

Wm. A. Russell, Lawrence, Holstein calf, first premium, $4.

Wm. A. Russell, Lawrence, Holstein calf, second premium, $1.

T. W. Haseltine, John Dane, Jr., S. F. Newman.—*Committee.*

STATEMENT OF WM. A. RUSSELL.

To the Committee on Heifers, First Class:—

I enter for your consideration, for thorough-bred Holstein heifers, under four years old, in milk, "Lady Shepard," No. 1586, H. H. B., 3 years and 7 months old. Dropped first calf, Dec. 1st, 1883; is due to calve, Feb. 30th, 1885. Milk record from Dec. 4th to Aug. 1st, 250 days, 7575 lbs. An average of 30 30-100 per day.

Emmer Clay, No. 1588, H. H. B., 2 years and 5 months old. Dropped first calf, Jan. 12th, 1884; is due to calve, April 26th, 1885. Milk record from Feb. 1st, to Aug. 1st, 181 days, is 4445 lbs. An average of 24 55-100 lbs. per day.

Feed the same as the cows, with the exception of meal, heifers have but two quarts per day.

For heifers one year old and upward, never calved—Catharina 2d, (4730), H. H. B., 17 months old. Clara B. Noble, (4729), H. H. B., 20 months old.

Heifer Calves.—Alberta B., 4 month old. Sire, Sligo, (621); Dam, Belle Margo, (1116). "Lady Avondale," 3 months old. Sire, Sligo, (621); Dam, Sireza, (1050).

Respectfully submitted,

WM. A. RUSSELL.
By J. C. POOR, *Manager*.

STATEMENT OF B. P. WARE.

Thorough-bred Ayrshire heifer, Rose Cabot, No. 7962, in milk; dropped Dec. 21st, 1881; Dam, Rose 2d, No. 7959; bred by Joseph Cabot. G. D. Rose, bred by Joseph Cabot. G. G. D. Marjory, imported by Joseph Cabot; Sire, Joseph Douglas, No. 2483. Also, thorough-bred Ayrshire heifer, Miss Mavis 2d, No. 7961; dropped Dec. 17, 1881; Dam, Miss Mavis, No. 7960. G. D. Mavis 3d, No. 616. G. G. D. Mavis, imported by Mass. Society for promotion of Agriculture. Sire, Joseph Douglas, 2483. Thorough-

bred Ayrshire heifer calf, Alice Rose, No. 7963; Dam, Rose 2d; bred by Joseph Cabot. G. D. Rose, bred by Joseph Cabot. G. G. D. Marjory, imported by Joseph Cabot; Sire, Joseph Douglas, No. 2483, bred by B. J. Stone of Southboro. G. S. Trim Douglas, G. G. S. Eglington imported.

HEIFERS—SECOND CLASS.

The Committee award to :—

Michael Cronin, Marblehead, grade in milk, first premium, $10.

Timothy O'Keefe, Peabody, grade in milk, second premium, $4.

Stephen Blaney, Peabody, grade one year, first premium, $4.

Daniel Cummings, Peabody, grade one year, second premium, $2.

Wm. B. Christopher, Middleton, grade calf, first premium, $4.

L. W. Goldthwaite, Danvers, grade calf, second premium, $2.

Wallace Bates, E. P. Barrett, John A. Ellis.—*Committee.*

WORKING OXEN AND STEERS.

Ten pairs of oxen were entered, and contested for the premium.

After witnessing the performance of so many fine working oxen, the Committee find it a hard task to decide which were worthy of the three premiums, as nearly every pair pulled well, but only two pairs came up to the Committee's requirement in backing.

As the Committee are required to consider the *quality* and *shape*, as well as their *working capacity*, we are unanimous in our opinion, that the first premium of $12 be awarded to J. J. H. Gregory, of Marblehead, for his fine Durham cattle.

The second premium of $10 to O. L. Carlton, Middleton, for a pair of fine working and superior backing oxen, well matched in build, but not in color.

The third premium of $8 to B. H. Farnham, No. Andover, for a nice pair of Durham cattle, which pulled well, but not up to the standard in backing. But, as they were such a well built pair, the Committee thought they deserved the third premium.

STEERS: THREE ENTRIES.

The first premium of $10 to H. P. Noyes, of Newbury, for a pair of Devon steers, which the Committee decided were the best workers they ever saw yoked together.

The second premium of $6 to W. W. Perkins, of Newbury, for a pair that worked well, and did all that was required of them.

J. Arthur Lamson, *for the Committee.*

TOWN TEAMS.

The Committee has awarded the first premium of $20 to the Town of Middleton, for the town team.

F. W. Lyford, Geo. A. Dow, Daniel Plummer, Alvin Smith.— *Committee.*

STEERS.

The Committee award to :—

Frank Perkins, Newbury, steers, first premium, $5.

Wm. B. Christopher, Middleton, steers, second premium, $4.

Jonas Rollins, Danvers, steer calves, first premium, $4.

D. Bradstreet, B. S. Barnes, Royal Day, Andrew Lane, Jr., H. B. Abbott.—*Committee.*

BROOD MARES.

The Committee award to :—

Clarence Day, Danvers, for his mare and foal, first premium, $10.

James J. Abbott, Andover, second premium, $6.

Town of Saugus, for Norman mare, third premium, $4.

Chas. H. Gould, Asa T. Newhall, D. A. Pettingill, F. A. Emery, Wm. Cogswell — *Committee.*

FAMILY HORSES.

The Committee have examined the Animals entered in this class, and report :

There were five horses of unusual merit and value. In only one instance was there a written statement with regard to the horses, and the Committee received the oral statement from the owners. They award the following premiums :—

To Chas. Sanders, Salem, for his gray horse, first premium, $10.

To O. S. Butler, Georgetown, mare, second premium, $6.

To T. K. Leach, Topsfield, mare, third premium, $4.

Geo. B. Loring, David Stiles, O. L. Carleton.—*Committee.*

FARM AND DRAFT HORSES.

The Committee award to:—

B. H. Farnham, No. Andover, first premium $10.

J. Rollins, Danvers, second premium, $6.

N. P. Proctor, Danvers, third premium, $4.

Maynard Whittier, B. N. Dodge, Frederic Burnham.—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee award to:—

John C. Phillips, Beverly, first premium, $12.

Walter F. Dodge, Beverly, second premium, $8.

Edward P. Perley, Danvers, third premium, $4.

Geo. W. Chadwick, Henry A. Bodwell, Samuel W. Hopkinson.—*Committee.*

COLTS—FIRST CLASS.

The Committee award to:—

Warren G. Perkins, Danvers, for four-year-old Gelding, first premium, $10.

Chas. Sanders, Jere. Cashman, Richard Ward.—*Committee.*

COLTS—SECOND CLASS.

The Committee award to:—

H. H. Demsey, Wenham, first premium, $6.

John Looney, Salem, second premium, $4.

Wm. Cogswell, J. H. Perkins.—*Committee.*

SWINE—FIRST CLASS.

The Committee award to:—

Danvers Lunatic Hospital, for breeding sow, first premium, $8.

John C. Phillips, Beverly, for breeding sow, second premium, $5.

John C. Phillips, Beverly, large Yorkshire boar, first premium, $8.

Benj. P. Ware, Marblehead, weaned pigs, four months old, second premium, $5.

A. T. Billings, Virgil Dow, Allen Lee.—*Committee.*

SWINE—SECOND CLASS.

The Committee award to:—

Salem City Farm, for Yorkshire boar, first premium, $8.

Salem City Farm, Chester White boar, second premium, $5.

Salem City Farm, breeding sow and pigs, Poland China, first premium, $8.

T. C. Durkee, Peabody, breeding sow, second premium, $5.

Enoch Merrill, R. T. Jaques, J. N. Rolfe.—*Committee.*

SHEEP.

The Committee award to:—

J. C. Phillips, Beverly, best lot of ten sheep, first premium, $10.

J. C. Phillips, Beverly, best Buck, first premium, $8.

S. S. Pratt, Danvers, best lot of lambs, first premium, $4.

John Swinerton, Edward Kent, A. L. Moore.—*Committee.*

POULTRY—FIRST CLASS.

The Committee award to:—

W. H. Downs, Salem, Light Brahma fowls, first premium, $2.

Frank M. Allen, Lynn, Light Brahma fowls, second premium, $1.

W. H. Downs, Salem, Light Brahma chicks, first premium, $2.

Frank M. Allen, Lynn, Light Brahma chicks, second premium, $1.

Charles M. Poor, Peabody, Dark Brahma chicks, first premium, $2.

Mark Pitman, Beverly, Wyandotte fowls, first premium, $2.

Albert W. Dodge, Ipswich, Wyandotte chicks, first premium, $2.

Mark Pitman, Beverly, Wyandotte chicks, second premium, $1.

Wm. M. Reed, Beverly, Pekin ducks, first premium, $2.

David Roach, Beverly, Buff Cochins, first premium, $2.

Wm. M. Reed, Beverly, Buff Cochins, second Premium, $1.

POULTRY—SECOND CLASS.

The Committee award to:—

Arthur G. Harris, Salem, Japanese Creepers, first premium, $2.

Frank H. Lord, Danvers, Plymouth Rock chicks, first premium, $2.

Levi A. Mead, Lynn, Plymouth Rock chicks, second premium, $1.

E. C. Tibbets, Danvers, Brown Leghorn fowls, first premium, $2.

E. C. Tibbets, Danvers, Brown Leghorn chicks, first premium, $2.

Frank Spofford, Danvers, Brown Leghorn chicks, second premium, $1.

Reuben W. Ropes, Salem, White Leghorn chicks, first premium, $2.

N. Jaquith, Andover, Andelusian chicks, first premium, $1.

Walter Smith, Methuen, Black Hamburg chicks, first premium, $2.

C. M. Poor, Peabody, B. B. Game Bantams, first premium, $2.

John Gunnivan, Beverly, G. Sebright Bantams, second premium, $1.

Walter Smith, Methuen, Game Pyle Bantams, first premium, $2.

Wm. Reed, Beverly, Game Bantams, first premium, $2.

PLOUGHING—DOUBLE OX TEAMS.

Two teams only, competed for premium. As one was not of sufficient merit to receive an award, the Committee were unanimous in awarding the first premium of $12 to B. H. Farnham, of No. Andover. Plough Hussey No. 16.

Sherman Nelson, Charles Haseltine, Daniel H. Hale, David Smith.—*Committee.*

PLOUGHING—SINGLE OX TEAMS.

The Committee on Ploughing with Single Ox Teams, report: That they have awarded premiums as follows:—

To Charles H. Peabody, of Topsfield, the first premium of eight (8) dollars. Plough Hussey No. 104.

The second premium of five (5) dollars to Dudley A. Massey, of Danvers. Plough Syracuse Chilled No. 1.

Respectfully submitted,

Nathaniel Shatswell, Horace M. Goodrich, G. F. Averill, F. Newhall.—*Committee.*

PLOUGHING—THREE HORSES.

The Committee on Ploughing with three or more horses, award to Frank Perkins of Newbury, the first premium of $10.

Geo. L. Hawkes, Albert Berry, A. W. Bodwell, E. C. Farwell.—*Committee.*

PLOUGHING—TWO HORSES.

The Committee award to:—

Walter F. Dodge, Beverly, with Oliver chilled plough, first premium, $12.

J. J. H. Gregory, Marblehead, with Hussey plough, second premium, $10.

T. C. Durkee, Peabody, with Hussey plough, third premium, $8.

John C. Phillips, Beverly, with Oliver chilled plough, fourth premium, $6.

John J. Gould, James Noyes, Henry W. Foster.—*Committee.*

PLOUGHING—SWIVEL PLOUGH.

The Committee award to:—

Jonas M. Rollins, Danvers, with Granger No. 2 D. plough, horse team, first premium, $10.

E. P. Perley, Danvers, Pettingill plough, horse team, second premium, $6.

Wilkins & Christopher, Middleton, Grange plough No. 2, ox team, first premium, $10.

J. C. Poor, E. G. Dole, Wm. A. Dane, Mark B. Avery. —*Committee.*

PLOUGHING—SULKY PLOUGH.

The Committee award to :—

Danvers Lunatic Hospital, S. S. Pratt, farmer, Cassady plough, first premium, $10.

A. B. Fellows, T. G. Ordway, John A. Hoyt, F. W. Sargent, Aaron Low.— *Committee.*

AGRICULTURAL IMPLEMENTS.

The Committee award to:—

Whitcomb & Carter, Beverly, collection of Implements, etc., premium, $10.

John L. Colcord, Peabody, Implements, etc., diploma.

Leach & Wilson, Topsfield, Horse Cart, premium, $5.

Andrew Dodge, Beverly, Hay Scales, gratuity, $5.

Solomon Fuller, Danvers, Finger Weeder, gratuity, $2.

Victor Manuf. Co., Door Hanger and Rail, gratuity, $2.

Albert Kimball, D. H. Hale, David Warren.— *Committee.*

CARRIAGES.

The Committee award to :—

E. C. Sawyer, Beverly, Goddard buggy, and Surry buggy, diploma.

E. C. Sawyer, Beverly, sleigh, gratuity, $3.

H. Trofatter, Salem Agent for M. G. Clement, six carriages, gratuity, $10.

H. H. Pillsbury, Danvers, six carriages, gratuity, $10.

Dole & Osgood, Peabody, three carriages, gratuity, $5.

John L. Shorey, Foster Gale, Wm. H. Haskell.—*Committee.*

DAIRY.

The Committee award to :—

Edgar J. Bliss, Beverly, butter, first premium, $10.

Mrs. Oliver Patch, Hamilton, butter, second premium, $8.

H. B. Osgood, Topsfield, butter, third premium, $6.

Rufus Kimball, John A. Putnam, Moses A. Plummer, W. F. Kinsman.—*Committee.*

STATEMENT OF MRS. EDGAR J. BLISS.

The milk is set in pans upon slatted shelves, and, after twenty-four hours, skimmed and churned in a barrel churn, at 60 degrees. The butter is at once put into a wooden bowl with ice water, salted and washed, with a ladle only. This process is repeated twice, and the butter packed or balled as required; also, salted as required, but never handled.

STATEMENT OF MRS. OLIVER PATCH.

To the Committee on Dairy:—

I present for your inspection, 14 lbs. September butter, made in the following manner: The milk is strained into tin pans—about three quarts in each pan—and set in a cool room, and allowed to stand from twenty-four to forty-eight hours according to the weather, being careful to skim the cream before the milk turns. As the cream is added to the pail each day, it is well stirred. Churn once a week;

do not put water after the butter comes. After the buttermilk is worked out all that possibly can be, it is salted with *dairy salt*, and, after standing over night, is worked over again and weighed into pound lumps, ready for market, as you see to-day.

STATEMENT OF H. B. OSGOOD.

Eight pounds of butter, made from Jersey cows, with Ferguson Bureau Creamery and Concussion Churn, and Carver worker and moulder. No coloring matter has been used, but the "natural and delicate straw color" has been preserved.

BREAD, HONEY AND CANNED FRUITS.

AWARDS FOR BREAD.

Best White Bread, Mrs. Allen Smith, Jr., Rockport, $3.

Second best White Bread, Mrs. N. E. Ladd, Groveland, $2.

Third best White Bread, Mrs. P. A. Masterson, Peabody, $1.

Best Brown Bread, Miss M. McHugh, Juniper Point, Salem, $3.

GRATUITY.

Berwick Sponge Cake, Mrs. D. W. Ladd, Salem, 50c.

Best Honey, P. R. Russell, Lynn, premium, $5.

Best Preserves, A. N. Webb, Salem, Bartletts, $3.

Second best Preserves, Mrs. A. Wilson, N. Beverly, $2.

Gratuity $1 to Mrs. M. Perkins, Salem

Best Dried Apples, Mrs G. W. Gage, Methuen, $3.

A true copy. Attest,

D. W. Low, *Supt. of Hall.*

PEARS.

The Committee award as follows :—

J. E. Hood, Danvers, Bartlett, premium, $3.

H. S. Traill, Salem, Belle Lucrative, premium, $3.

H. B. Learnard, Danvers, Beurre Bosc, premium, $3.

Charles E. Brown, Peabody, Beurre d'Anjou, premium, $3.

Charles A. Ropes, Salem, Duchesse, premium, $3.

J. Henry Hill, Amesbury, Dana's Honey, Urbaniste, Mount Vernon, premium, $9.

David Pettingell, Danvers, Lawrence, Vicar, premium, $6.

W. A. Dodge, Salem, Louise Bonne de Jersey, premium, $3.

A. J. Hubbard, Peabody, Marie Louise, premium, $3.

E. T. Waldron, Danvers, Swan's Orange, premium, $3.

B. R. Symonds, Salem, Paradise d'Automne, premium, $3.

Mrs. L. A. Wells, Salem, Seckle, premium, $3.

George Pettengill, Salem, St. Michael Archange, premium, $3.

John O'Brien, Bradford, Sheldon, premium, $3.

C. B. Somes, Groveland, Winter Nelis, premium, $3.

Charles A. Ropes, Salem, collection of pears, first premium, $8.

V. C. Stowe, Salem, collection of pears, second, $6.

J. Henry Hill, Amesbury, collection of pears, third, $4.

George Pettengill, Salem, best dish 24 specimens, premium, $6,

T. C. Thurlow, West Newbury, Doyenne Boussock, gratuity, $1.

George Pettengill, Salem, Clapp's Favorite, gratuity, $1.50.

Charles H. Allen, Salem, Orange, from tree 245 years old, gratuity, $1.50.

Charles A. Ropes, Salem, Doyenne Comice, gratuity, $1.

S. P. Honeycomb, Salem, Souvenir de Congres, gratuity, $1.50.

H. S. Traill, Salem, Flemish Beauty, gratuity, $1.00.

F. S. Peck, Salem, Seckel, gratuity, $1.

J. H. Driscoll, Salem, Louise bonne de Jersey, gratuity, 75 cts.

Edwin Bates, Lynn, Duchesse, gratuity, $1.50.

George H. Smith, Beurre d'Anjou, gratuity, $1.

S. Southwick, Beurre Bosc, gratuity, $1.

Mrs. E. N. Cheever, Sheldon, gratuity, $1.00.

A. J. Hubbard, Peabody, Bartlett, gratuity, $1.00.

George D. Glover, Salem, Bartlett, gratuity, $1.

Mrs. M. A. Trumbull, Washington, gratuity, $1.50.

John W. Grant, gratuity, $1.50.

P. M. Neal, E. P. Richardson, George Pettengill.—*Committee.*

APPLES.

The Committee award as follows :—

Baldwin, first premium to Edwin F. Carleton, Salem.

Danvers Winter Sweet, first premium, F. A. Whitman, Wenham.

R. I. Greening, first premium, John Taylor, Amesbury.

Granite Beauty, first premium, J. Henry Hill, Amesbury.

King of Tompkins Co., first premium, T. K. Leach, Topsfield.

Drap D'Orr, first premium, J. P. Leavitt, Salem.

Red Russett, first premium, J. Henry Hill, Amesbury.

Hubbardston, first premium, J. M. Hale, Ipswich.

Porter, first premium, W. K. Cole, West Boxford.

Pickman Pippin, first premium, D. Warren, Swampscott.

Roxbury Russett, first premium, J. N. Rolfe, Newbury.

Sweet Baldwin, first premium, F. A. Whitman, Wenham.

Gravenstein, first premium, D. M. Cole, West Boxford.

Hunts Russett, first preminm, C. P. Savory, Groveland.

Tolman's Sweet, first premium, J. C. Wardwell, Groveland.

Bailey's Sweet, first premium, J. Henry Hill, Amesbury.
McCarty, G. W. Gage, Methuen, $6.
Best 24 spec. for Gravenstein, Henry Verry, Danvers, $6
Hyslop Crab, H. B. Learned, Danvers, $1.50.
Choice Crab apple, Mrs. W. H. Archer, Salem, $1.50.
Best collection, J. Henry Hill, Amesbury, $8.
Fine collection, Chas. A. Ropes, Salem, gratuity, $2.
Snow apple, Albert Kimball, Bradford, gratuity, $1.50.
Ribston Pippin, Frank Perkins, Newbury, gratuity, $1.50.
Gravenstein, A. C. Peabody, Middleton, gratuity, $1.50.
Hunt Russett, T. K. Leach, Topsfield, gratuity, $1.00.
Roxbury Russett, A. P. Swinerton, Danvers, gratuity, $1 00.
Porter, Aug. Verry, Danvers, gratuity, $1.00.
Hubbardston, David Plummer, Newbury, gratuity, $1.00.
Drap D'Orr, S. M. Titcomb, W. Newbury, gratuity, $1.00.
R. I. Greening, Henry Very, Danvers, gratuity, $1.00.
Danvers Winter Sweet, David Pettingill, Danvers, gratuity, $1.00.
Baldwin, Chas. A. Ropes, Salem, gratuity, $1.00.
Nonpariel, Porter Brown, Salem, gratuity, $1.50.
Mammoth Pippin, J. A. Peaseley, Peabody, gratuity, $1.00.
20 ounce, J. N. Rolfe, Newbury, gratuity, $1.50.
Glory of the West, C. F. Pousland, Salem, gratuity, $1.50.
Fine dish of apples, Fred. Rowell, gratuity, $1.50.
Killam Hill, W. P. Lawrence, Salem, gratuity, $1.50.
Snow apple, N. E. Ladd, Groveland, gratuity, $1.50.
Cloth of Gold, W. V. Ware, Danvers, gratuity, $1.50.

James J. H. Gregory, *for the Committee.*

PEACHES, GRAPES AND ASSORTED FRUIT.

The awards are as follows:
Henry Stone, Lynn, best Crawford peaches, premium, $2.

George R. Lord, Salem, best late peaches, premium, $2.

Aaron Nourse, Salem, seedlings, premium, $1.

John Osborne, Salem, Ives Blood, gratuity, 50 cts.

Harriet A. Sumner, Peabody, peaches, gratuity, $4.

Frederick Lamson, Salem, Stump the World, gratuity, 75 cts.

Mrs. Eben N. Walton, Salem, Delaware grapes, premium, $3.

Edwin Verry, Salem, Rogers 3, premium $3.

T. P. Honeycomb, Salem, Rogers 39, premium, $3.

C. P. Savary, Groveland, Rogers 19, premium, $3.

G. W. Gage, Methuen, Concord, Worden's Seed, Cottage, Hartford, Rogers 39, premium, $15.

Alonzo Fowler, Danvers, Rogers 4, premium, $3.

Jos. W. Goldthwaite, Salem, Brighton, premium, $3.

T. C. Thurlow, West Newbury, Moore's Early, premium, $3.

H. P. Ives, Salem, Rogers 19, gratuity, $1.50.

Henry Stowe, Lynn, Pocklington, gratuity, $1.50.

V. C. Stowe, Salem, Victoria, gratuity, $1.00.

George Pettengill, Salem, Rogers 3, gratuity, 50 cts.

C. P. Preston, Danvers, Clinton, gratuity, $1.50.

C. P. Savary, Groveland, Diana, gratuity, $1.50.

G. D. Walton, Peabody, Champion, gratuity, $1.50.

F. A. Whitman, Wenham, Rogers 3, gratuity, $1.

J. H. Punchard, Salem, grapes, gratuity, 50 cts.

Aug. Verry, Danvers, Crevelling, gratuity, 50 cts.

Jas. N. Eaton, Peabody, Concord, gratuity, $1.00.

Wm. A. Ireland, Salem, Rogers 19, gratuity, 50 cts.

G. W. Gage, Methuen, collection, premium, $7.

J. C. Rogers, Peabody, Cold House grapes, first premium, $6.

G. W. Gage, Methuen, Cold House Grapes, second premium, $4.

George A. Wait, Danvers, assorted fruit, first premium, $4.

A. J. Hubbard, Peabody, assorted fruit, second premium, $3.

REPORT OF COMMITTEE ON FLOWERS.

The exhibitions of Flowers and Pot-plants for the past two seasons have far excelled those of any previous years in size and general excellence of the specimens, the exhibition of 1884 being even better than that of 1883. The want of proper facilities for exhibiting cut flowers as well as the limited space generally available for this department in most of the towns where the exhibitions of the society have been held, has prevented, in a great measure, a fair display of the floral resources of the county. For the two past seasons, however, the exhibitions at Salem have been held under different circumstances.

This city has long been known as a horticultural centre, perhaps more prominently so in the past than at present, for a taste for horticulture has of late years rapidly developed in many places where formerly none existed.

In 1850, the year the last cattle show was held in Salem, the Essex Institute assumed charge of the hall exhibit. Under its management the display was much enlarged over previous shows, and for the first time an admission fee was charged. This plan worked so satisfactorily that the trustees have ever since continued its practice. The Institute has regularly conducted Horticultural Exhibitions in Salem, since 1834, and can fairly claim a large share of the credit in developing a love for this branch of Agriculture. For the purposes of its exhibitions the Institute has accumulated a large stock of stands, vases, cut-flower cases, bottles, &c.

The free loan of this material and the co-operation of the Institute by uniting its annual fall exhibition with that of the Essex Agricultural Society, together with the unequalled exhibition space afforded on the stage of the coliseum building, made it possible to bring together and properly arrange an excellent collection of plants and flowers. The stage as used was about 50 feet by 35 feet with a height of 20 feet. Around the sides and rear were placed stands which were completely filled with cut-flowers: boquets, de-

signs, dishes and vases of flowers being arranged with them; leaving a walk way of eight feet. The centre of the stage was filled with Palms, Ferns, Coleus, Agaves, and other foliage plants which extended to, and along the entire front of the stage, the whole making an exceedingly decorative feature as viewed from the hall.

Of the separate entries it is hardly necessary to speak, as the list of premiums and gratuities awarded, sufficiently indicate those considered to be of greatest merit. Neither Mr. George W. Creesy nor the present writer entered their collections for competition. The former exhibited some fine Palms and Cycads, cut-flowers and a floral design; the latter Agaves and Ferns. There being but a single prize of $1 offered for pot-plants the gratuities awarded in this department hardly suffice to express the excellence of Mr. S. Endicott Peabody's green-house ferns, or his variegated Pine Apples, which last were finer specimens than are usually met with. Mr. Putnam's and Mr. Mitchell's coleus were also good, both as to varieties and quality of plants. The wisdom of the trustees in offering a liberal prize for native flowers was made evident. In this department two of the best collections ever exhibited in this region, at this season, were shown; all the specimens of which were correctly marked with their botanical and common names. Besides the larger collections from Mrs. Horner and Mr. Sears, several smaller named collections and bouquets of native plants were exhibited. The two large bouquets shown by Mr. B. R. Symonds, were composed of many varieties of flowers and were arranged with exquisite taste. Among the cultivated flowers the hand and parlor bouquets from Mr. Putnam were composed of choice flowers and were well made, so also was the large floral design, a cross three feet high, exhibited by Mr. Woodman.

Mr. Punchard had some excellent seedling carnations: dwarf coxcomb of good quality was shown by two exhibitors, and the single dahlias, mourning bride, and nasturtians

exhibited were above the average in excellence. One of the most surprising exhibits was the arranged case of double hollyhocks shown by Mr. Ward. The flowers were good in themselves, and at this late date, September 23, such a display was remarkable.

Your committee would respectfully call attention to the entire absence, from this, an unusually large exhibition, of eleven different flowers for which premiums were offered. In addition to these six others were only represented by single entries. As this has been a remarkably favorable season for gardening it can hardly be expected that better results will be attained in future years. It is not of course proper to award premiums for specimens unless they are up to a certain standard of excellence, and your committee believing that such cannot be reached, with certain flowers, at the season of the year at which these exhibitions are held, they would recommend that the premium list be amended by striking out the premiums of $1 each offered for Double Portulacca, Chrysanthemums, Sweet Pea, Candytuft, Double Larkspur, Stocks, Balsams, Antirrhinum, Everlasting Flowers, Salpiglosis, French Marigold, and substitute as follows :—

For Japan Lily, 12 specimens,	$1.00
For Single Dahlias, 12 specimens, raised from seed by exhibitor,	1.00
For 12 Trusses, 6 varieties of Geranium,	1.00
For 12 Trusses, 6 varieties of Garden Phlox,	1.00
For best collection of garden annuals, 6 specimens of at least 10 varieties,	2.00

They would also recommend that a premium of $1 be offered for the best display of varieties of coxcomb, and that the premium for "best varieties of coxcomb feathered" and "best 12 coxcomb" be stricken out. Also, that for "largest and best display from one person, $4" there be substituted :—For the best display of cut flowers and best arrangement, $3; second, $2; also, that :—Best grown pot

plant (not from a green house), $1, be substituted for "Handsomest pot plant," and that a first premium of $3, and a second premium of $2 be offered for collections of foliage plants, and that premiums be offered for the following plants in pots: Ferns, 4 pots, $1; Gloxinias, 4 pots, $1; Coleus, 4 pots, $1; Begonias, best specimen plant any species, $1. The schedule for premiums which your committee would recommend with a few other minor changes as to wording and arrangement would be as follows:—

PREMIUMS.

Best display of foliage plants in pots, at least 10 specimens,	$3 00
Next best display of foliage plants in pots, at least 10 specimens,	2 00
Best 4 Ferns in pots,	1 00
" 4 Gloxinias in pots,	1 00
" 4 Coleus in pots,	1 00
" specimen of any species of Begonia in pot,	1 00
" grown pot plant of any species, not from a green house,	1 00
" pair of parlor bouquets of choice flowers,	3 00
" pair of hand bouquets of choice flowers,	2 00
" bouquet of garden flowers,	1 00
" floral design of choice flowers,	2 00
" arranged basket of garden flowers,	1 00
" display of cut flowers,	3 00
Next best display of cut flowers,	2 00
Best 12 garden Dahlias, 6 varieties,	1 00
" 12 bouquet Dahlias, 6 varieties,	1 00
" 12 single Dahlias raised from seed by exhibitor,	1 00
" 24 Asters, 6 varieties,	1 00
" 12 Carnation Pinks, 4 varieties,	1 00
" 12 spikes of Gladiolus, 4 varieties,	1 00
" 24 Petunias, 6 varieties,	1 00
" 24 Verbenas, 6 varieties,	1 00

Best 24 Double Zinnias, 4 varieties, - -	1 00
" 24 French and African Marigold, 6 varieties,	1 00
" 12 Calendula or pot Marigold, 2 varieties,	1 00
" 12 Japan Lilies, 2 varieties, - -	1 00
" 12 trusses of Geranium, 4 varieties, -	1 00
" 12 trusses of Garden Phlox, 4 varieties, -	1 00
" collection Drummond's Phlox, 6 varieties,	1 00
" collection Mourning Bride, 4 varieties, -	1 00
" collection Nasturtians, 4 varieties, -	1 00
" collection Pansies, 6 varieties, - -	1 00
" collection Everlastings, 6 varieties, -	1 00
" collection garden annuals, 6 specimens of at least 10 varieties, - - -	1 00
" collection Roses, 3 varieties, - -	1 00
" collection Native plants, to be marked with the correct botanical and common names, and neatly displayed in separate bottles, - -	5 00
Next best as above, - - - -	3 00
Best arrangement of native flowers and autumn leaves, - - - - -	2 00
	$55 00

Your committee recommend the continuation of the amount of $20 to be awarded for gratuities. They would also recommend strict adherence to the following rules in relation to the awarding of premiums for flowers and plants.

1. Every plant or flower entered for premium (except native flowers), must be grown by the exhibitor.

2. No premium shall be awarded unless the specimens exhibited are of average excellence and worthy of such premium.

3. No specimen entered for one premium shall be admitted in competition for another different premium.

Your committee have prepared the foregoing list of premiums with due care and consideration of the fact that a large majority of competitors have not the advantages

green houses afford, and, therefore, few additions have been made to the list of premiums for green house plants. Although such contributions add very materially to the general effect of an exhibition, it is thought that the premiums here offered should be arranged for the purpose of stimulating and elevating the taste for good plant culture among the masses of our country people. Among the premiums for pot plants, especially, such have been selected as may be grown by any careful house-keeper who has the natural love for plant culture, which is, after all, the secret of most successes in this field.

Your committee would express their sincere thanks to the ladies who assisted in the work of arranging the flowers and to Mr. Arthur R. Stone who took charge of the preparations, and acted as clerk for the committee, both before and during the exhibition.

Respectfully submitted,

JOHN ROBINSON, *for the Committee.*

PREMIUMS AND GRATUITIES.

H. W. Putman, Salem, best parlor bouquets, premium. $3; H. W. Putman, Salem, best hand bouquets, premium. 3; Mrs. C. N. Horner, Georgetown, best native flowers, premium, 5; J. H. Sears, Salem, second best native flowers, premium, 3; E. and C. Woodman, Danvers, floral design, premium, 3; F. Lamson, Salem, cut flowers, premium, 3; Mrs. J. H. Hill, Amesbury, dahlias, gladiolus, premium, 2; Mrs. M. P. Nichols, Lynn, asters, marigolds, premium, 2; J. H. Punchard, Salem, carnations, premium. 1; W. A. Ireland, Salem, petunias, verbenas, premium, 2: J. J. H. Gregory, Marblehead, double zinnias, drummond phlox, premium, 2; Miss E. Ropes, Salem, cockscomb premium, 1; Wm. Merrill, West Newbury, marigolds and dahlias, premium, 2; S. E Peabody, Salem, mourning bride,

premium, 1; J. J. H. Gregory, Marblehead, cockscomb, premium, 1; Annie D. Varney, Salem, nasturtiums, premium, 1; W. S. Ward, Salem, pansies, premium, 1; Geo. D. Phippen, Salem, eternal flowers, marigold, premium, 2; S. E. Peabody, Salem, pot plant, premium, 1; W. S. Ward, Salem, best display, premium, 4; J. Mitchell, Beverly, cut flowers, etc., gratuity, 3; Mrs. N. J. Warren, Swampscott, wild flowers and bouquet, gratuity, 2; B. R. Symonds, Salem, wild flowers, gratuity, 1; W. S. Ward, Salem, wild flowers, gratuity, 1: Mrs. M. E. Fuller, Middleton, wild flowers, gratuity, 1; Mrs. Wm. Stevens, Beverly, geraniums, gratuity, 1; T. C. Thurlow, West Newbury, lilies, gratuity, 1; G. D. Phippen, Salem, display, gratuity, 1; E. & C. Woodman. Danvers, dahlias, gratuity, 1; H. W. Putnam, Salem, coleus, gratuity, 1; S. E. Peabody, Salem, ferns, gratuity, 1; S. G. Hooper, Salem, fig tree, gratuity, 1; Mrs. D. R. Parker, Groveland, verbenas, gratuity, 1; B. P. Ware, Marblehead, cut flowers, gratuity, 1; Mrs. J. West, Salem, nasturtiums, gratuity, 1: Geo. Millett, Andover, wild flowers, gratuity, 1; Geo. W. Creesy, Salem, floral design, honorable mention; John Robinson, Salem, agaves and ferns, honorable mention.

VEGETABLES.

Your Committee appointed to examine and report on Vegetables, would submit the following report:—

The show in this department was very good—fully up to former years. Whole number of entries, 505. Contributors, sixty-two; from twenty-three cities and towns.

Turnip beet, 16 entries, premium, David Warren, Swampscott, $3 00

Short top long orange carrot, 5 entries, premium, Cabot Farm, Salem, 3 00

Short horn carrot, 5 entries, premium, Richard T. Jacques, Newbury, 2 00

Mangel wurtzel, 4 entries, premium, Golden tankard, Edwin Bates, Lynn, 3 00

Purple top turnip, 2 entries, premium, H. H. Stiles, Middleton, 3 00

Ruta Baga, 1 entry, premium, Augustus Verry, Danvers, 3 00

Parsnips, 4 entries, premium, Maltese, Wm. A. Jacobs, Danversport, 3 00

Danvers onion, 7 entries, premium, J. J. H. Gregory, Marblehead, 3 00

Yellow flat, 5 entries, premium, R. Goodwin, Haverhill, 3 00

Red, 1 entry, premium, J. J. H. Gregory, Marblehead, 3 00

Early Rose potato, 3 entries, premium, John C. Phillips, North Beverly, 3 00

Beauty of Hebron, 3 entries, premium, John C. Phillips, North Beverly, 3 00

Clark's No. 1, 3 entries, premium, J. J. H. Gregory, Marblehead, 3 00

Savoy cabbage, 6 entries, premium, M. F. Batchelder, Peabody, 3 00

Red cabbage, 3 entries, premium, M. F. Batchelder, Peabody, 3 00

Stone Mason, 3 entries, premium, David Warren, Swampscott, 3 00

Fottler's Drumhead, 6 entries, premium, Reuben Alley, Marblehead, 3 00

Cauliflower, 1 entry, premium, Moses B. Abbott, Andover, 3 00

Celery, 2 entries, premium, L. W. Goldthwait, Danvers, 2 00

Field corn, 4 entries, premium, George F. Mason, Andover, 5 00

Sweet corn, 23 entries, premium, J. J. H. Gregory, Marblehead, early,	3 00
Sweet corn, premium, Salem Almshouse, late,	3 00
Pop corn, 7 entries, premium, George F. Mason, Andover,	3 00
Marrow squash, 3 entries, premium, J. J. H. Gregory, Marblehead,	3 00
Essex Hybrid, 9 entries, premium, J. J. H. Gregory, Marblehead,	3 00
Nutmeg melon, 4 entries, premium, Frank Perkins, Newbury	2 00
Tomatoes, 19 entries, premium, Aaron Low, Essex, Round flat,	3 00
Tomatoes, premiums, Aaron Low, Essex, Spherical,	3 00
Essex Hybrid, 5 entries, premium, Wm. V. Ware, Salem,	3 00
Paragon tomato, premium, Cabot Farm, Salem,	3 00
Cranberries, 2 entries, premium, Andrew Lane, Rockport,	3 00
Best collection vegetables, premium, J. J. H. Gregory, Marblehead, 192 varieties,	8 00
Collection field and garden seeds, premium, J. J. H. Gregory, Marblehead, 290 varieties,	8 00
Second best collection vegetables, premium, Aaron Low, Essex, 12 varieties,	6 00
Field corn (Waushakum), second premium, John C. Phillips, North Beverly,	3 00
Savoy cabbage, second premium, Cabot Farm, Salem,	2 00
Fottler's Brunswick cabbage, second premium, H. A. Stiles, Middleton,	2 00
Field corn, (Vermont), third premium, Wm. E. Porter, Wenham,	2 00
Herbs (1 box), gratuity, John W. Pratt, South Salem,	50
1 Musk melon, gratuity, John W. Pratt, South Salem,	50

Sugar beets, gratuity, John C. Phillips, North Beverly, .50
2 Mammoth pumpkins, gratuity, Edwin Bates, Lynn, .50
25 bottles seed beans, gratuity, Edwin Bates, Lynn. 1 00
Pop corn, gratuity, J. W. Barton, Danvers, .50
Essex Hybrid squash, gratuity, Frank Perkins, Newbury, .50
Danvers onion, gratuity, Richard Jaques, Newbury, 1 00
12 bundles rye, gratuity, Wm. Little, Newbury, 1 00
12 bottles beans, gratuity, Wm. P. Upham, West Peabody, .50
Amber cream sweet corn, gratuity, Aaron Low, Essex, .50
Peerless early cabbage, gratuity, Aaron Low, Essex, 1 00
Collection of peppers, 4 varieties, gratuity, E. & C. Woodman, Danvers, 1 00
Potter's excelsior sweet corn, gratuity, Nathan S. Bushby, Peabody, 1 00
Danvers carrot, gratuity, Nathan S. Bushby, Peabody, 1 00
Long blood beet, gratuity, M. F. Batchelder, Peabody, .50
Perfect gem squash, gratuity, Andrew Curtis, Peabody, .50
Waushakum field corn, gratuity, T. P. Hale, Rowley, 2 00

This corn would have taken first premium, if the rules of the Society regarding number of ears, had been complied with. The Committee recommend that exhibitors make themselves familiar with the rules of the Society, in regard to numbers, size, etc., of vegetables entered to procure premium.

Winter wheat, gratuity, A. C. Peabody, Middleton, $1 00
Tomato, gratuity, George F. Dockum, Beverly, .50
Stowell's evergreen corn, gratuity, J. E. Thurlow, Methuen, .50
American Turban squash, gratuity, (too large for premium), Cabot Farm, Salem, 1 00

Mangel Wurtzel, gratuity, Cabot Farm, Salem, 50

J. Henry Hill, Charles W. Wood, C. W. Mann, William Huff, Horace C. Ware.— *Committee.*

COUNTERPANES, CARPETINGS AND RUGS.

The Committee would report that there were 134 entries in their department, and that they have awarded the following:—

First premium for counterpane, Mrs. M. B. Kenney, Salem, $4; second premium for counterpane, Mrs. Alvin Shaw, Peabody, $2; first premium for braided mat, Mrs. Mary E. Fuller, Middleton, $3; second premium for rug, Mrs. A. B. Hodgden, Salem, $2; gratuity of $1.50, for rug, Miss Clara A. Place, Beverly; gratuity of $1, for rug, Mrs. M. Adams, Salem; gratuity of $1, for rug, Mrs. Henrietta Pushee, Beverly; gratuity of $1, for rug, Mrs. Lydia W. Burnham, Essex; gratuity of 50 cents, for rug, Mrs. A. M. Waldron, Danvers; gratuity of 50 cents, for rug, Mrs. Lucy B. Felt, Salem; gratuity of 50 cents, for rug, Mrs. H. Marshall, Salem; gratuity of 50 cents, for rug, Mrs. Chas. Mooney, Salem; gratuity of 50 cents, for rug, Mary A. Fornice, Peabody; gratuity of 50 cents, for rug, Sarah P. Bassett, Salem; gratuity of 50 cents, for rug, Mrs. L. A. Dudley, Danvers; gratuity of 50 cents, for rug, Mrs. L. Hood, Danvers; gratuity of 50 cents, for rug, Miss Hattie Pushee, Beverly; gratuity of 50 cents, for rug, Mrs. Martha J. Haskell, Beverly; gratuity of 50 cents, for rug, Mrs. Benj. Edwards, Salem; gratuity of 50 cents, for rug, Mary A. Bassett, Salem. We would mention a mat, entered by Mrs. Mary Morgan, of Salem.

For Counterpanes we have awarded: Gratuity of $1, Mrs. Eleazer Pope, Salem, aged 86 years; gratuity of $1, Mrs. L. A. Luscomb, Salem; gratuity of $1, Miss Annie Casey, Salem; gratuity of $1, Miss M. Gorman, Salem;

gratuity of $1, Mrs. S. A. Stickney, Salem, gratuity of 50 cents, Mrs. Geo. P. Buckley, Danvers; gratuity of 50 cents, Miss Nancy Wilkins, Salem; gratuity of 50 cents, Miss Annie E. Shirley, Danvers.

For Quilts: gratuity of $1, Miss May A. Cloutman, Marblehead; gratuity of $1, Mrs. M. P. Honeycomb, Salem; gratuity of $1, Mrs. Lydia W. Burnham, Essex; gratuity of $1, Sarah F. Towne, Beverly; gratuity of 50 cents, Miss M. A. Welch, Salem; gratuity of 50 cents, Mrs. Martha Parsons, Wenham; gratuity of 50 cents, Mrs. M. Wiley, Georgetown; gratuity of 50 cents, Mrs. Harriet A. Sumner, Peabody; gratuity of 50 cents, Mrs. Lucy B. Felt, Salem, aged 79 years; gratuity of 50 cents, Mrs. J. P. Folsom, Georgetown; gratuity of 50 cents, Mrs. E. G. Babcock, Salem.

Attest,

Andrew Nichols, Willard Goldthwaite, F. R. Allen, Miss Elizabeth Wheatland, Miss Susan W. Osgood.—*Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

The Committee award as follows:—

E. A. Putnam, Beverly, buggy harness, gratuity, $3.

L. K. Barker, Beverly, buggy harness, gratuity $4.

Charles A. Spencer, Salem, best exhibit, gratuity, $7.

J. Fraser & Co., Beverly, perfection Herdic saddle, gratuity, $2.

Charles McTernan, Danvers, double harness, gratuity, $4.

Henry Hobbs, C. Cammet, Wm. Hilton, Foster Gale.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee award as follows:—

William B. Gray, Salem, bird house, &c., gratuity, $2;

Israel R. Phelps, Salem, blind awning, &c., gratuity, $3; Plummer Farm School, Salem, cane seats, gratuity, $1; George Sibley, Salem, cotton staying, gratuity, $3; N. N. Dummer, Rowley, Glen Mill breadstuffs, gratuity, $3; N. N. Dummer, Rowley, process of making flour, gratuity, $3; Frank Cousins, Salem, stamping material for art needle work, gratuity, $2; Frank Cousins, Salem, for exhibit of goods, honorable mention; Jacob Young, Salem, organs, honorable mention; Merrill & Mackintire, Salem, stationery and wall paper, honorable mention; William F. Perry, Salem, house furnishings, honorable mention; H. P. Ives, Salem, books and wall paper, honorable mention; C. H. & J. Price, Salem, drugs and medicines, honorable mention; Shawmut Hat Store, Salem, hats, furs, etc., honorable mention; George F. Ropes & Co., Salem, drugs and medicines, honorable mention; Philbrick & Perkins, Salem, art materials, honorable mention; Almy, Bigelow & Webber, silk loom products, rugs, etc., honorable mention; Daniel Low, Salem, watches, silver ware, etc., honorable mention; Fifield & Page, stoves, etc., honorable mention; W. C. Packard & Co., furniture, etc., honorable mention.

FANCY WORK AND WORKS OF ART.

In complying with the rules of the Society, that each committee report through the chairman,—the committee on "Fancy Work," and "Works of Art," submit the following:—

On Sept. 23d and 24th, 1884, the Annual Cattle Show and Fair being held at the Willows, Salem, the day previous found a large number of people busy receiving and arranging the articles brought. It was with no little interest that each was given such place as space would admit, and no little thought was bestowed by the committee in charge, as to the respective value and merit of each

article. The children's table contained a goodly number of articles, and we felt that many a cheerful hour was spent by the little ones, in accomplishing so much.—Yet one sighs, with a great longing, for the day when Industrial Arts may be numbered among the studies in the public schools, that the children may be trained to use their hands in some useful handicraft, whereby an honest livelihood might be made, or recreation furnished for the spare hours, with some satisfactory and useful results.

Were the minds trained to work with the hands, no longer would a table full of useless work greet one's eyes at any public exhibition. The *good* specimens of work show the nimble fingers only needing and waiting for suggestions and helps to produce better results. Many a boy might produce a good piece of wood carving, who may be the despair of his teacher in mathematics, or a girl furnish a good design for wall paper or carpet, and be none the less ready with her history or latin. Philadelphia is doing this in her schools, and with very satisfactory results. Why need Massachusetts be behind in helping *her* rising generation? It is needless to say, that beginning with the children is the surest way of procuring a higher standard among the work of the older people, and in the years to come, a decided improvement might be expected in all branches of fancy work, should such effort be made.

Some specimens of Embroidery show artistic feeling and fine execution. The China Painting was very good—in most instances, the fitness of the design to the article being considered. Among the pictures were *some* landscapes, and many flower pieces, with greater or less degrees of merit; some showing untiring industry, which, whatever the result, put to shame the attempt of others, who, with a few hours' work, expect to produce a showy article, with which to ornament (?) their halls. In each department one sees the lack of early training, and the need of patient practice and labor. Decorative work cannot be done with-

out thought and untiring effort, much less easel painting. Let us hope to see steady improvement each year, as fresh helps constantly offer themselves, and good instruction opens to many.

The committee would suggest that a separate committee be provided, another year, for the two branches combined in this: That a little more space be given the pictures, as a limited amount necessitates the hanging of some above the range of vision.

S. S. KIMBALL, *for the Committee.*

AWARDS.

Miss Frank Sumner, Salem, handkerchief, gratuity, 50 cents; Miss L. E. Daniels, Salem, fire board, gratuity, $1; Miss A. L. Hill, Salem, pillow shams, gratuity 50 cents; M. T. Pitman, Salem, design, gratuity, 50 cents; Lilla Perkins, Salem, banner, gratuity, $1; M. E. Stanley, Salem, oil painting, gratuity, 50 cents; Mrs. W. L. Bowdoin, Salem, ice cream set, gratuity, 50 cents; Mrs. C. N. Symonds, Salem, brass placque, gratuity, 50 cents; Lizzie Cheever, Salem, afghan, gratuity, 50 cents; Abbie G. Buxton, Peabody, table cloth, gratuity, 50 cents; Mary L. Smith, Salem, sofa cushion, gratuity, 50 cents; Helen A. Wilson, Salem, child's dress, gratuity, 50 cents; Miss A. F. Perkins, Salem, one dozen plates, gratuity, 50 cents; Mrs. E. V. Emilio, Salem, quilt and shams, gratuity, 50 cents; Minnie Albro, Danvers, shawls and capes, gratuity, 50 cents; Clara H. Sweetser, Peabody, panels, gratuity, $3; Clara H. Sweetser, Peabody, silk quilt, gratuity, $1.50; Mrs. Henry Pushee, Beverly, tidy, gratuity, 50 cents; Miss A. L. Chadwick, Salem, sofa pillow top, gratuity, $3; Miss E. W. Chadwick, Salem, cups, pitcher, etc., gratuity, $1; Gertrude Gardner, Salem, hood, gratuity, 50 cents; Mrs. E H. Page, Salem, placque, gratuity, 50 cents; Mary E. Flowers, Salem, thermometer, gratuity, 50 cents; Mrs. O. M. Harris, Salem, sofa pillow, gratuity, 50 cents; Charles

F. Whitney, Salem, salad dish, gratuity, $2; Mrs. C. S. Kimball, Peabody, lambrequin, gratuity, $1; C. F. Whitney, Salem, water colors, gratuity, $1.50; Lillie E. Roberts, Salem, screen, gratuity. $1; Edith B. Pickering, Salem, picture, gratuity, $1; Miss Sophia Wood, Salem, afghan, gratuity, 50 cents; Gertrude Gilman, Salem, picture, gratuity, $1; Mrs. James W. Averill, Salem, panel, gratuity, 50 cents; James B. Boardman, Saugus, painting, gratuity, $1; Percy Grosvenor, Peabody, hood, gratuity, 50 cents; Miss G. A. Covell, Salem, painting, gratuity, $1; Mrs. A. French, Salem, table scarf, gratuity, 50 cents; Miss M. W. Farrington, Salem, lambrequin, gratuity, $1; Mrs. J. A. Jaques, Newbury, afghan, gratuity, 50 cents; A. Fuller, Danvers, bracket, gratuity, 50 cents; Mrs. Paull, Swampscott, silk quilt, gratuity, $1; Mrs. C. O. Stone, Peabody, placque, gratuity, $1; Miss Ida Upton, Peabody, roses, gratuity, $1; Abbie E. Lannon, Salem, picture, gratuity, $1; Miss A. W. Currier, Newburyport, silk quilt, gratuity, $1; Mrs. A. P. Newhall, Lynn, pen and ink work, gratuity, 50 cents; Mrs. N. E. Ladd, Groveland, pen and ink work, gratuity, 50 cents; Miss Susie Poor, Peabody, picture, gratuity, $2; Mrs. J. P. Folsom, Georgetown, silk quilt, gratuity, $1; Mrs. J. C. Abbott, Salem, salad dish, gratuity, 50 cents; Miss W. L. Whipple, Salem, design, gratuity, 50 cents; Maggie McDonald, Salem, sofa pillow, gratuity, 50 cents; J. C. Rockwood, Methuen, afghan, gratuity, 50 cents; Mrs. C. G. Foss, Lynn, bracket, gratuity, 50 cents; A. F. Derby, Salem, belt, gratuity, 50 cents; C. C. Redmond, Salem, painting, gratuity, $2; F. Pitman, Salem, water colors, gratuity, $1; Miss C. Goldthwaite, Salem, painting, gratuity, $1; Mrs. E. B. Lord, Salem, hair and bead, gratuity, 50 cents.

WORK OF CHILDREN UNDER TWELVE YEARS OF AGE.

The Committee award as follows:—

Edith Weeks, Salem, painting, 50 cents; Daisey Derby, Salem, tidy, 50 cents; Rita Derby, Salem, tidy, 50 cents; Nettie Elva Fellows, Peabody, quilt, 50 cents; Essie M. Shaw, Peabody, collar and duster holder, 50 cents; Hattie Osborn, Peabody, mat, 50 cents; Edith S. Todd, Rowley, tidy, 50 cents; Gertie W. Carlton, Rowley, motto, etc., 50 cents; A. Shirly Ladd, Groveland, album of pressed flowers, $1; Annie E. Wayt, Hamilton, braided mat, $1; Fred P. Simonds, Salem, fruit from casts, $1; Arthur T. Vallentine, Salem, pair shoes, 50 cents; Belle Wilson, Peabody, twine bag, 50 cents.

A true copy of Awards.

Attest,

D. W. Low, *Supt. of Hall.*

EXPERIMENTS WITH MANURES.

The Committee on Experiments with Manures respectfully submit the following report:—

Horace F. Longfellow, of Byfield, is the only competitor for the Society's premium, and by his statement is shown that his experiments this year are principally continuations of experiments reported upon last year, and for which he was awarded the first premium. This experiment is of much interest, showing that onions, on some land, may be grown successfully, for many years successively, with commercial fertilizers alone, this making the sixth year of cropping with onions, and only Russell Coe's or the Standard Fertilizer applied. But it must be borne in mind that this same land was heavily manured for three years, with from seven to ten cords of good stable manure; the land thus being in a high state of fertilization in beginning the experi-

ment with the phosphate. How much of the crop was due to that, no one can tell. For a complete experiment, a portion of the lot should have been left without any fertilizer, then the value of that applied would have been shown.

Mr. Longfellow has also grown a good crop of corn on new land, with only fertilizers applied, and also potatoes, successfully with the same, on land that had been in cultivation four years, with nothing but phosphates used during that time, showing very successful crops with this method of fertilizing.

Notwithstanding the interesting character of Mr. Longfellow's statement, the committee are of the opinion that it lacks, in several ways, the requisite qualities of an experiment, such as is intended by the offer of the premium, as it gives only such information as is required in growing any crop offered for a premium, and will be found in his statements accompanying his premium crops this year. Therefore, no premium is awarded, as the experience of growing onions, several years in succession, with commercial fertilizers, was covered by the award of last year.

The whole subject of the application of manures is one of such magnitude and importance, is so intricate in all of its bearings that your committee hesitate to treat it at all, fully realizing their inability to discuss the subject with the intelligence that its importance demands. The above experiments, and many others reported, may be misleading, from the imperfect manner in which they are conducted. If they happen to be successful, they are reported; if failures, we hear nothing from them. This statement is not intended to reflect especially upon Mr. Longfellow's experiments, but it is made as applicable to most experiments, as usually conducted upon the farm; which leaves the reader somewhat in doubt as to the real value of the experiment, on account of the part, or parts, that have been omitted, necessary to show conclusive evidence of the application by comparison.

We are taught by the careful, analytical study of chemistry, that, of the fourteen or more constituents of which our farm crops are composed, nature provides liberally for all but three, viz.:—phosphoric acid, potash and nitrogen; which last, later investigation appears to leave somewhat in doubt, as to its natural sources and application as plant food. But there seems to be no doubt among scientists, that continual cropping of our farms, appropriates potash and phosphoric acid, and possibly nitrogen, more or less, faster than is provided by natural processes; therefore, the farmer must supply these ingredients in the proper proportion, so that our soils may furnish plant food in an available form, according to the needs of our several crops. Now, as onions and potatoes show by chemical analysis, to contain a large proportion of potash, so much so as to be classed as potash plants; and, inasmuch as Russell Coe's, and the Standard Fertilizer used in the foregoing experiment, contain but about 1.4 per cent. of potash, therefore, it is reasonable to conclude that the land was well supplied with potash, and weak in phosphoric acid, of which Coe's contained 8 per cent. and the Standard contained 12 per cent. which was found to be more effective than Coe's, thus proving that the land was most deficient in phosphoric acid. Now, while this fertilizer proved successful on Mr. Longfellow's land, on some other land poor in potash, this would doubtless prove quite unsatisfactory, and possibly a failure, without an additional amount of potash.

We have in mind an instance where an old onion field had been manured liberally, several years, with stable manure, and by a small application of ashes alone, a first-rate crop of onions was grown, which happened to supply the needed ingredient to the land; the same application to Mr. Longfellow's land would not probably have had the same effect. In another instance, a piece of land near a factory, in Hingham, was liberally spread with ashes from the factory, for several years, which gave good crops of

grass in return, for some years, which exhausted the land of phosphoric acid, and the result was nearly a barren field. "It was ash sick"; even stable manure failed to restore it to productiveness, but an application of treated ground bone supplied the necessary ingredient; equilibrium was restored and great productiveness is the result.

In another instance, a worn-out farm at Martha's Vineyard, that produced very little but moss, was brought into a high state of productiveness by the application of ashes only: the land proving deficient in potash. Other instances might be cited where nitrogenous manures have been freely used alone, such as night-soil or fish refuse, for several years, the exciting influences of which have so drawn from the potash in the soil that the equilibrium was destroyed, productiveness ceased; and these valuable fertilizers when properly used, condemned only from improper use. These cases are quoted in order to show the necessity of a more systematic method of experiment than is usually adopted, as what may appear a complete success is only misleading, for the same application on other lands in different condition might be a total failure. Hence the necessity of each farmer testing the condition of his own fields, by trying in small plots, different ingredients, either singly or in combination; in order to show what is deficient in that field; and apply the special fertilizer needed to restore the proper proportions in available form, for a complete plant food.

This method recommended by Prof. Atwater, of the Conn. Experiment Station, has been successfully adopted by many farmers in Conn. and elsewhere. In this way your committee are of the opinion that special fertilizers if intelligently purchased and applied, may prove an economical method of successful cultivation. But, notwithstanding the many flattering statements of some of our most respected and reliable farmers, we would urge the importance of placing the main dependance upon barn-yard and stable manure, for permanent fertility and sure returns.

It is a fact, very significant, that while most farmers, in reporting a crop for premium, want one-half of the cost of barn manure applied, charged back to the land, the most sanguine admirer of the so-called commercial fertilizer, never thinks of naming such a rebate, and for good and sufficient reason, as the experience of most of us prove.

We have in mind a field where a part was cropped with popular commercial fertilizers, another part with barn manure, and still another with no fertilizer for two years, and then laid down to grass. There appeared to be no difference, in the crop of grass on the part that had the fertilizer applied the previous two years, and the part that had nothing, and of course was very light; but the part of the field that had the manure applied, gave a good crop for four or five years, and showed a marked difference for two years later; thus showing the lasting effects of barn manure, and the volatile, short-lived influence of commercial fertilizers, as usually put upon the market. So we conclude that for a permanently improved condition of the farm, we must rely upon old-fashioned barn-yard manure, while for the present year a crop may be profitably grown with some commercial fertilizer, if intelligently selected, to meet the deficiency of the land, and the relative proportion of the ingredients of the crop to be grown.

Benj. P. Ware, *Chairman.*

ROOT CROPS.

Under this head there have been eight entries, viz: Clarence F. Perkins, Newbury, onions; Horace F. Longfellow, Newbury, onions and potatoes; Daniel Carleton, North Andover, onions and cabbages; James J. H. Gregory, Marblehead, onions; Sidney F. Newman, Newbury, two lots squashes.

Your committee, after a careful examination of the

crops, and a comparison of the several statements, taking into account the cost and *quality*, as well as quantity of each crop, would award as follows:—

To James J. H. Gregory, Marblehead, onions, first premium, $10.

To Horace F. Longfellow, Newbury, onions, second premium, $5.

To Horace F. Longfellow, Newbury, potatoes, first premium, $10.

To Daniel Carleton, North Andover, cabbages, first premium, $10.

To Sidney F. Newman, Newbury, squashes, first premium, $10.

Considering the season, and the low price of all kinds of vegetable and root crops, we are surprised at the large yield and very low cost of production; and would recommend that all the statements be printed in the Transactions, as being thoroughly practical and much more valuable than anything your committee might be able to say. *Committee.*—T. C. Thurlow, George A. Randall, Allen Rowe, Warren M. Cole, B. F. Huntington.

STATEMENT RELATING TO A CROP OF ONIONS, BY J. J. H. GREGORY, MARBLEHEAD.

The crop raised on the same piece of land in 1882–83 was onions. The manure each season being a cord of compost of night-soil, barn and rockweed manure per acre, ploughed in, and five hundred pounds of Peruvian Guano, or its equivalent in value in muriate of potash, phosphate of lime and meat. The soil is a strong loam, on the top of a hill of land, which abounded in large boulders before it was cleared up. The land is in part, underdrained. The land was not ploughed either in fall or spring, but was pulverized by first passing Reynold's "Monarch Pulverizer," over it twice lengthways, and once across, then harrowed

with Acme harrow, and raked by horse power, by the Meeker rake, an implement, which by actual test on my land, will. with a horse and one man, do the work of twenty men, and do it on land free from large stones, better than they can do it. The land was planted by a Matthews seed drill, the latter part of April, with four pounds per acre of Early Round Danvers Onion seed. It was slid through and hand weeded four times. The crop was harvested in the latter part of September, and the crop on the half acre was 360½ bushels of well-ripened onions of fine quality.

The expense of raising the crop was as follows:

Preparing the ground,		$1 00
Seed.		6 00
Sowing of Seed,		50
Four Slidings and Weedings.		16 00
Fertilizers, viz., 350 lbs. Ames' Phosphate,		
50 " Dried Blood,		
200 " Spoilt Cotton Seed,		14 62
150 " Muriate of Potash,		
150 " Standard Guano,		
Harvesting,		16 00
Topping,		10 82
Interest on land.		4 50
Total cost of production,		$69 44

The fertilizers were harrowed in before planting, excepting the guano, which was spread on the surface just before the onions began to bottom, and worked in by a slide hoe at the last sliding. J. J. H. Gregory.

This is to certify that I measured a piece of onions for J. J. H. Gregory, containing eighty (80) square rods, yielding 360½ bushels. William B. Carleton.

Middleton, Oct. 29, 1884.

To the Committee on Root Crops:

Gentlemen:—

The half acre of onions which I enter for your in-

spection and the society's premium, were raised on the same land and under the same treatment as the crop that received the premium in 1883; the only difference being that the crop of '83 was the *fifth* year that onions had been raised on the same land with nothing but phosphates as a fertilizer, and the crop of this season is the *sixth* consecutive year.

The onion field was ploughed last fall to the depth of four inches. About the first of May, 1884, 1,000 pounds of "Standard" phosphate was sowed broadcast on the half acre, and immediately harrowed in, but on account of the heavy rains we were unable to sow the seed until the 11th of May. The seed was raised by a member of your committee, George A. Randall—who always has the best—and was sowed in drills fourteen inches apart, and at the rate of five pounds per acre. They came up nicely, and as soon as they were large enough to hoe without burying, the wheel hoe was put to work *and kept at it*. At first, an 8-inch hoe was used, and later on, as the onions grew larger, a 10-inch.

They were kept constantly free from weeds, grew fast and thanks to a "late fall," ripened down well, and were nearly all merchantable, there being but few small onions. We finished topping Oct. 17th, and have 379½ bushels, or 759 bushels to the acre.

They were measured in baskets, twelve of which were weighed and varied in weight from fifty-one to fifty-five pounds, only two of them weighing less than fifty-two pounds. I inclose certificates of measurement of land and onions, also giving below the cost of raising the crop, and, although, the price of onions this fall is extremely low—50 cents per bushel, still the crop on this half acre makes the profit an extremely satisfactory one.

Ploughing and harrowing,	$2 50
Phosphate,	20 00
Sowing the same,	50
Sowing Onions,	75
Hoeing Onions,	7 50

Weeding Onions,	14 00
Pulling, Topping and Harvesting,	15 00
2½ lbs. onion seed,	2 50
Interest and Taxes,	3 00
	$65 75

Very respectfully,

HORACE F. LONGFELLOW.

Byfield Mass., Oct. 20, 1884.

BYFIELD, Sept. 22, 1884.

This is to certify, that on Sept. 22, 1884, I assisted Mr. H. F. Longfellow in measuring one-half acre of onions from his onion field, 8 x 10 rods, just one-half acre.

J. W. HOLLAND.

BYFIELD, MASS., Oct. 17, 1884.

I certify that I helped measure the above lot of onions, and that there were 379½ bushels. JOHN SHATTUCK.

BYFIELD, MASS., Oct. 20, 1884.

To the Committee on Root Crops:

GENTLEMEN:—The crop of potatoes which I enter for premium, was raised on land of a dark, sandy clay loam, of which I enter one-half acre that has had no manure but phosphates for four years. Onions were raised on this land in 1881 and '82, and each year the treatment was 1600 pounds per acre of "Standard" phosphate, applied broadcast. The crop of last year was cabbage and potatoes, and was raised on 1,000 pounds, same phosphate per acre. This year, '84, the land was ploughed six inches deep, about the 1st of May, and drilled in rows three feet apart, to the full depth, with the Whitcomb horse hoe, and the phosphate, 1200 pounds to the acre, was scattered in the drills, and was brushed over with a white birch immediately after sowing. Two kinds of phosphates were used, Brad-

ley and the Standard, alternating every two rows. I will give the result of this test in my report to the Committee, on "Experiments with Manures," at your request. The potatoes, White Elephants, were cut, leaving three eyes to each piece, and were dropped, fifteen inches apart, in the drills on the third day of May. They were then covered with the horse hoe, first reversing the wings. Very little hand labor was done on the crop, and consisted principally in pulling big weeds after the last hoeing. They were well cultivated and hoed twice with the horse hoe. Amount of seed used, five bushels; Paris green was applied once only. The vines made a very vigorous and exceedingly heavy growth, getting almost entirely out of the way of the blight, which only damaged a few spots in the field. The four square rods, selected by your committee as an average, were dug the last of September, and yielded as follows:

$472\frac{3}{4}$ lbs. of large potatoes = to 315 1-6 bushels per acre.
$62\frac{1}{2}$ " " small " " " 41 2-3 " " "

Total crop, 356 5-6 bushels per acre.

Below, I give an estimate of the cost of raising the crop:

Ploughing and drilling,	$1 50
Phosphate,	12 00
Sowing the same,	50
Planting,	1 50
Hoeing and Weeding,	3 00
Paris Green and applying,	1 00
Harvesting,	7 00
5 bushels seed,	2 50
Interest and Taxes,	3 00
	32 00

Yours truly,
H. F. Longfellow.

STATEMENT OF DANIEL CARLETON.

To the Committee on Root Crops:

Gentlemen:—The half acre of Fottler Cabbage entered

by me, was grown on land that had been in grass for several years; no manure had been applied while in grass. The soil is a dry, strong loam. Last Spring, twenty loads, of thirty bushels each per acre, of cow manure, were spread upon the sod and plowed under, to the depth of six inches. The land was then harrowed and afterward furrowed, making the rows three and a half feet apart. Four hundred pounds of Cumberland phosphate, per acre, were scattered in the furrows and covered by using a hoe. Seed at the rate of three-fourths of a pound per acre, was then sown by machine. The seed was sown May 15th. By sowing with machine, the cultivator can be used nearer to the rows when the plants are small, than it can where the seed is scattered in hills. The piece was hoed by hand four times, but as the horse hoe was used often, the work of hoeing after the first time was slight. The plants were thinned so as to stand about a foot and a half apart in the rows, a greater distance would probably give as many pounds of cabbage, but in this vicinity, large cabbages do not sell as well as those of medium size. Almost every cabbage formed a solid head. 100 cabbages, taken just as they came, by cutting a drive-way across the rows, weighed 615 pounds. Upon the half acre there are 4,750 cabbages.

The cost of the crop is as follows:

Plowing and preparing land,	6 50
Seed and Sowing,	2 00
Cultivating and Hoeing,	12 00
200 pounds Phosphate,	4 00
Value of Manure when spread,	30 00
Interest on land,	3 00
	$57 50

Cost of gathering crop balanced by value of fodder.

STATEMENT OF S. F. NEWMAN.

To the Committee on Root Crops, of the Essex Agricultural Society, 1884.

Below is a statement regarding two pieces of Squashes, raised by Sidney F. Newman of Newbury, and entered for premium.

Lot No. 1, contains eighty-two rods. The crop of 1882 was grass; no manure. Crop of 1883, was grass, mowed about the 20th of June, and the ground plowed the 27th of June, and planted to corn fodder, with 200 lbs. Standard Phosphate in the drill. Owing to the drought late in the summer, but a medium crop was harvested.

The ground is a clayey loam, with gravelly subsoil. The ground was manured with four and a half cords barn cellar manure, spread broadcast, and plowed in, six inches deep, about the middle of May, harrowed with a wheel harrow and smoothed with a Thomas Smoothing Harrow, and planted May 20th, with Clark's No. 1 potatoes, with Ames' Phosphate in the drill, at the rate of 400 lbs. to the acre, in rows three feet apart, leaving every fourth row vacant, to be planted with squashes later.

The potatoes were cultivated a number of times, and hoed twice by hand. The vacant rows were planted to Essex Hybrid squash, June 18, in hills four and a half feet apart, with a handful of Ames' Phosphate in the hill, well mixed with the soil, and the seed dropped six to a hill, and covered with a hoe. They came up evenly, were cultivated twice, hoed once, and thinned to two vines to a hill.

Below is a statement of the cost and value of the two crops.

To 4¼ cords manure on the ground,	$31 50
To 200 pounds phosphate,	3 50
To plowing and harrowing,	1 75
To planting potatoes and cost of seed,	3 50
To cultivating and hoeing potatoes,	3 50
To Paris Green and applying,	1 00
To digging potatoes,	4 00
To planting squash seed and cost of seed,	3 50
To cultivating, hoeing and thinning squashes,	1 50
To harvesting squashes and hauling to depot,	5 00
	$58 75

Cr.

By 60 bush. Clark's No. 1 Potatoes at 60 cents,	$36 00
By 3 Tons, 1,680 pounds Squash, at $10.50,	40 32
	$76 32
Profit,	17 57

Lot No. 2, contains 80 3-4 rods. The crop of 1882–3 was strawberries, with no manure except a little Bradley's phosphate sown broadcast in 1883. The soil is a lightish loam with gravelly subsoil. This lot was manured with five cords barn cellar manure (that had lain out in a pile over winter), spread broadcast and ploughed in six inches deep; April 28, harrowed with a Thomas Smoothing Harrow and planted to Early Sunrise potatoes April 30, in rows three feet apart, with Ames' Phosphate in the drill at the rate of 400 lbs. to the acre, leaving every fourth row vacant, to be planted to squashes later.

The potatoes were cultivated a number of times and hoed by hand once. The vacant rows were planted to Essex Hybrid Squash, June 19, in hills four and one-half feet apart, with a handful of Ames' Phosphate to a hill, well mixed with the soil, and the seed dropped six to a hill and covered with a hoe ; they came up evenly, were cultivated once, thinned to two in a hill, and were not hoed at all. The potatoes were dug and marketed in July.

The cost of the two crops is as follows :

To 5½ cords of manure on the ground,	$38.50
To 200 lbs. phosphate,	3.50
To ploughing and harrowing,	1.75
To planting potatoes and seed,	4.00
To cultivating and hoeing potatoes,	1.50
To Paris Green and applying,	1.00
To digging and marketing gotatoes,	7.50
To planting squash seed and cost of seed,	3.50
To cultivating and thinning squashes,	.50
To harvesting and hauling to depot,	6.00
	$67.75

Value of Crops.

60 bu. Potatoes, sold at $1.20,	72.00
5 tons and 82 lbs. Squash, at $10.50,	52.99
	$124.92
Profit,	$57.17

In the above statement I have charged nothing for rent of land, and made no credit for small potatoes and green squash, as I fed them right to the cows without measuring.

SIDNEY F. NEWMAN.

I hereby certify that I measured the two pieces of land mentioned in the above statement, and that the quantity of land is correct as stated.

JOSEPH ILSLEY.

GRAIN CROPS.

The Committee on Grain Crops would submit the following report:—

There were seven crops in all entered for premium, as follows: one of wheat; three of corn; and three of rye. These crops were all visited by the committee, and a careful examination made, while they were standing in the field. An honest endeavor was made by the committee, to have the applicants comply strictly with the rules of the society, governing the action of both applicants and committee: and, after a very careful examination of the whole subject matter before us, present the subjoined statements, and the awards made by the committee:

WHEAT CROP.

STATEMENT OF WM. LITTLE OF NEWBURY.

The crop of wheat that I enter for premium grew upon

an acre of nearly level land in Newbury. The soil is of a heavy, strong nature resting upon clay, but with an intervening strata of yellow loam, that gives a fair drainage, and fits it for the plough, when spring has fully opened. For the crop of 1883, about one-half was onions, the rest was planted with potatoes, cabbages and beans; the whole being heavily manured. For the wheat crop no manure was applied. The ground was ploughed, harrowed, and the wheat sowed about the first of May, and harrowed in with a Thomas smoothing harrow. Grass seed was afterward sowed and the land rolled. About a bushel and three-eights of seed was sown.

The cool, damp weather of the last half of May and June produced so luxuriant and heavy growth of straw that the larger part of the piece lodged badly in June. This, I think, those members of the committee who saw the crop will readily admit, reduced the total yield from three to five bushels. The wheat was cut with a scythe, Aug. 5th or 6th, and threshed and winnowed with a machine, in September, and measured 38 bushels and 3 pecks. A specimen peck was on exhibition at the Fair in September. The straw weighed forty-one hundred and forty pounds. This does not include what was used in decorating the Rink—three large bundles unthreshed. I append an estimate of the cost and value of the crop :

Rent of land,	$ 6.00
Ploughing, harrowing and sowing,	5.00
Harvesting,	7.00
Threshing,	10.00
	$28.00

Mr. Little's success in growing wheat should encourage our farmers who have suitable land for its cultivation, to follow his example. We are very free to say that this field of wheat, as we saw it two weeks before harvesting, was the best in all respects, that we have ever seen in New England.

RYE CROP.

STATEMENT OF MR. WM. LITTLE OF NEWBURY.

I offer for premium, a crop of Rye, grown upon one acre and thirty-two rods of ground, lying in Newbury, on the westerly side of Merrimac Ridge, so called. The soil of about a quarter part is light, loamy and warm; the remaining three-fourths is a heavy, dark loam, resting on clay, and so wet in spring that in common years it is unfit to plough before the 20th of May.

The rye was sown Oct. 5th or 6th, 1883, and harrowed in, no manure being applied; using nearly one and one-half bushels of seed—a rather larger quantity than common. As it was late and the soil cold and heavy, it was thought that some of it might be winter-killed. It was cut July 23d, and two days after bound up and stocked, all but twenty or thirty rods that was lodged so badly that it could not be bound. It stood in field two or three weeks, when it was hauled into the barn, and threshed a month later, part by hand and part by horse power; and, after winnowing, was measured, and the quantity found to be fifty-nine and three-fourths of clean grain, besides from a peck to a half bushel of unclean grain. In addition to this was the grain in twelve bundles used unthreshed in decorating the Rink, at the late exhibition. The straw was extraordinarily heavy, weighing 5510 pounds, besides the above twelve bundles, and perhaps 100 pounds more of broken and chaffy straw that was not weighed.

An especial reason for offering this crop for your consideration is found in its suggesting a different plan of managing such land, of which there is a great deal in this country. This ground was broken up in the spring of 1882, and though late, planted with corn. Partly in consequence of extreme drought, but a small crop was obtained. The next spring was dry, and the land was heavily manured and planted with potatoes the middle of May. This was a

favorable year, and a large crop was obtained. As soon as the potatoes were dug, the land was ploughed and harrowed, and the rye was sown and harrowed in. This spring, very soon after the snow was gone, grass seed was sown, and the result is found in the foregoing crop of rye, and a fine catch of grass that was so well grown when the dry weather of the latter part of the season came on, that no injury was done thereby: whereas, if I had waited and sowed grain this spring, it would have been so late (as the ground could not have been ploughed until June), that the crop of grain must have been small and the grass so feeble when dry weather came on that probably a large part would have been summer-killed. The yield per acre at the regoing rate would be fifty bushels.

I append an estimate of the cost and value of the crop:

Rent of land,	$ 8.00
Ploughing, harrowing and sowing,	5.00
Harvesting,	10.00
Threshing,	12.00
	$35.00
Sixty bushels rye at 70 cents,	$42.00
5510 pounds straw at 60 cents,	33.06
	$75.06
Cost,	35.00
Profit,	$40.06

STATEMENT OF R. NEWELL.

The land on which the crop that I offer for premium, was planted with potatoes in the spring of 1883, six cords of good barn-yard manure spread on and harrowed in. Harvested potatoes first week in September. Prepared ground and sowed rye, Sept. 17, 1883. Finished harvesting rye, July 21, '84. Had it weighed in public scales, before housing: weight, 10,370 pounds. Threshed and

winnowed August 2d. Weighed grain—had 3698 pounds, or 66 bushels and 2 pounds. Sold crop for eighty cents per bushel. Deducting the weight of grain from the gross weight, would leave 6672 pounds of straw. In my account I have called the straw three tons, allowing the rest for shrinking. 200 pounds of Bradley's & L. Super phosphate was sown broadcast on the lot, before sowing the rye.

Account with Rye crop:

Dr.	
Seed 1¾ bushels,	$ 1.75
Preparing land,	5.00
Phosphate,	4.00
Reaping, binding and stacking,	12.00
Housing and weighing,	4.00
Threshing and winnowing,	10.50
Interest on value of land,	9.00
Total cost,	$46.25
Cr.	
By 66 bushels rye at 80 cents,	$52.80
By 3 tons straw at $18,	54.00
	$106.80
Cost,	46.25
Profit,	$60.55

Richard Newell.

I certify that I measured the ground on which the above crop grew, and that it contained 247 sq. rods, and no more.

Richard Newell.

STATEMENT OF SAMUEL DANE.

The crop of Rye which I enter for premium, was grown on one acre of land, of rather light soil. In 1883, it was planted with potatoes, and manured in the drill, with about four and one-half cords of manure. A very good crop of

potatoes was harvested. The first week in September, it was manured, and ploughed about eight inches deep, in with about the same quantity of meadow mud and barn-yard manure composted, and sowed to winter rye. The rye was harvested about the middle of July.

COST OF CROP.

Preparing ground,	$ 4.00
Seed and sowing,	2.00
Manure,	18.00
Reaping, binding and storing,	6.00
Threshing and winnowing,	5.00
Interest on value of land,	5.00
	$40.00

VALUE OF CROP.

2072 lbs. grain (very nice), equal to 37 bushels, at 90 cents,	$33.30
3500 lbs. straw, sold at $1,	35.00
Total,	$68.30
Cost,	40.00
Profit,	$28.30

CORN CROPS.

As before stated, there were three entries of corn crops. Mr. Pratt of the Asylum farm, showed us a magnificent field of rye, when it was at its best; but, for some unexplained reason, failed to put in a statement of the crop, consequently there were but two entries in competition. We subjoin their statements:

STATEMENT OF CHAS. W. MANN.

June 16, 1880, I first plowed the land on which the corn crop that I offer for premium, was raised. I had just cut about 1500 pounds of hay from the acre. Planted to

squash, with fifteen loads manure; got four tons of squash. Plowed again, Oct. 28; and again, May 24, 1881; put on twenty-seven loads of manure, and sowed to ensilage corn, June 2. Crop stood twelve to fourteen feet high, and was very heavy. Plowed again, and sowed to rye, with eighteen loads of manure, Sept. 27.

The first crop taken off in the summer of '82, was green rye, and yielding at the rate of about three tons to the acre, when dried. This was cut June 8th, and the ground plowed again, immediately, and twenty-four loads of manure from the barn cellar put on, with a Kemp's Spreader, harrowed in, and sown with Hungarian grass, which was cut, August 17th, and gave a little over two tons to the acre. After this was taken off, the ground was plowed again, and had twelve more spreader loads of manure harrowed in, and was sown with rye, which was cut the 11th day of the following June, and put into the silo. It was a very heavy crop, standing from six to seven feet high, and the estimated weight, from the weight of a single rod, was fourteen tons to the acre.

The crop which followed this, was cabbage, for which the land was prepared by plowing, harrowing, and furrowing out; twenty-seven loads of manure was strewn along the furrows, covered in, and cabbage plants set, from June 19th to July 10th. About half of the plants were from good seed, and did well, and the crop sold for about $200; the other half made a good crop of fodder.

The nature of the soil is a dark, heavy loam, inclined to be stony, and a little gravelly in spots.

In the spring of '84, this acre was plowed once, May 12th, about eight inches deep, and, at this time, twenty-two loads of manure of thirty bushels each, were spread on, and plowed under. It was harrowed over twice, with an Acme harrow, May 21st, and planted with a Keystone Corn planter, which drops single kernels thirteen inches apart, in a continuous row. Five quarts of Longfellow Corn of

J. J. H. Gregory's strain, was used, and a smoothing drag run over the piece.

The season was cold and wet, the corn came up slowly, and in some places required replanting. June 14th, it was cultivated for the first time, going twice between each two rows, so as to work up close to them on each side, with a Planet Jr. Cultivator. At this time, one and one-half barrels (350 pounds), of Bay State Bone Super-phosphate was strewn along the rows and cultivated in.

The piece was cultivated again, June 20th, and the third time, July 2d, going only once to a row, and a man worked one day, cutting out the few weeds that the cultivator could not reach between the stalks in the row. July 11th, it was cultivated once more, going through twice to a row, and early in August, the few larger weeds that had grown in the rows, were pulled out.

After the corn got well started, it came on rapidly, and made a good growth of large, heavy stalks, some having three, and few less than two, large, well developed ears.

We commenced cutting up the corn, Sept. 27th, it being then very well ripened, except that which was replanted, was a little soft. It was stocked without bundling, by using a horse, and after standing a little more than two weeks, it was got in, and husked. The harvesting was finished Oct. 16th; the result was, by a careful estimate, six and one-half tons of well cured stover; and, by actual measurement, 188 baskets of corn in the ear.

The land measures just one acre.

Dr.

May 12.	Plowing—man and two horses,	$ 2.00
	22 loads manure,	22.00
" 21.	5 quarts Longfellow corn,	.30
	Harrowing—man and two horses, four hours,	1.50
	Planting—man, boy and horse, one and one-half hours,	.60

	Smoothing—man and horse.	.30
June 14.	Cultivating—man, boy and horse, two and one-half hours,	.75
	350 lbs. Bay State Super-phosphate, at two cents,	7.00
	Replanting, and putting on Phosphate, man, six hours,	.60
" 20.	Cultivating—man, boy and horse, two and one-half hours,	.75
July 2.	Cultivating—man, boy and horse, one and one-quarter hours,	.38
	Hoeing—man, one day,	1.00
" 11.	Cultivating—man, boy and horse,	.75
Aug.	Weeding,	.50
Sept. 27.	Cutting and stooking,	4.00
Oct. 16.	Getting in and husking,	14.00
		$56.43

Cr.

6½ tons stover, at $7 per ton,	$45.50
94 bush. corn, at 75 cents per bushel,	71.50
Cost of corn, 11⅔ cents per bushel.	$117.00

STATEMENT OF H. W. LONGFELLOW OF NEWBURY.

I have entered, to compete for the Society's premium, "for the best conducted experiment of Indian Corn," one acre of my corn-field :

The last cultivated crop raised on this land, was in the year 1875, when it received as a dressing, 1000 pounds super-phosphate, and no manure or phosphate has been put on it since. In 1876, it was laid down, and has been in grass ever since. Last spring, it was broken up, plowed six inches deep, the last week in May, and 900 pounds of Standard phosphate was sown broadcast, on the furrow, and at once harrowed in, with the Randall harrow. The rows were marked both ways. three and one-half feet apart, and the corn planted, June 6th, using 400 pounds phosphate in the hills—making a total of 1300 pounds for

the acre. The variety was the "Longfellow," and the amount of seed, ten quarts, using not less than six kernels to the hill. We cultivated twice, both ways, keeping the soil—which is a dark, sandy loam—perfectly loose and friable. But little hand hoeing was done on the piece, as we made no hill.

In September, the top stalks were cut, and when they were perfectly cured, weighed 2800 pounds. The corn ripened well, and we, this day, have finished husking, and have 156 baskets, averaging forty-two pounds each. Three of them were weighed, and their weights were—forty-four, forty, and forty-two pounds respectively. The butts and husks we estimate to weigh 4000 pounds. At eighty pounds per bushel (which I believe is the Society's standard), it would give about eighty-two bushels of shelled corn per acre.

The cost of the crop is as follows :—

Plowing,	$ 3.00
Phosphate,	26.00
Sowing Phosphate,	1.50
Harrowing and marking,	2.50
Planting,	3.00
Cultivating,	3.50
Hoeing and weeding,	3.50
Cutting stalks and binding,	2.50
Harvesting and husking,	8.00
	$53.50
Interest and taxes,	3.00
	$56.50

I enclose certificate of measurement of land and crop.

As we have for the last dozen or fifteen years, been experimenting with super-phosphate, in competition with barn-yard manure, and have satisfactorily settled the question—so far as we ourselves are concerned—I bring before you this statement, not on account of an enormous crop,

but simply to show that at least an average crop of corn, can be raised, under very ordinary circumstances, on superphosphate alone.

AWARDS.

WHEAT CROP.

William Little, of Newbury, first premium, $10.

CORN CROP.

C. W. Mann, of Methuen, first premium, $10; H. F. Longfellow, of Newbury, second premium, $5.

RYE CROP.

William Little, of Newbury, first premium, $10; Richard Newell, of West Newbury, second premium, $5.

J. N. Rolfe, O. S. Butler, J. P. King, H. C. Ware.—*Committee.*

REPORT OF COMMITTEE ON FOREST TREES.

Three entries only, were made this year, for the premiums offered for ornamental trees, and tree plantations. These were by Oliver P. Killam, of West Boxford, Romulus Jaques, of West Newbury, and James Flint, of Middleton. Neither of the entries exactly complied with the requirements of the premium list, yet, in as much as the prospectus for the year was not sent out until after the time expired for entering trees, and as there were but three entries, and no competition, your committee, after consulting with the President of the Society, have thought it best to waive these technicalities and consider the trees entered upon their own merits, although they desire that this shall not be construed as a precedent for such action in the future, especially if there should be a larger number of entries and a decided competition. Your committee would here express their opinion that the prospectus of premiums should be more explicit, and that the rules in relation to the award of premiums be printed with each prospectus.

The trees entered are as follows:—"An acre of ornamental trees, bought six years ago, set out in the spring of 1879, on worn out pasture land, mostly Sweet Chestnuts," by Romulus Jaques, of West Newbury, entered August 25; "A lot of shade trees," chiefly Rock Maples, entered by Oliver P. Killam, of West Boxford, August 25; and a lot of shade trees, Rock Maples and White Pines, entered by James Flint, of Middleton, September 4.

Members of your committee have examined all the lots entered, the chairman visiting each of them. The Rock Maples entered by Mr. Killam, are about 100 in number; they are well cared for, thrifty trees, varying from four to ten inches in diameter, and from twenty to thirty feet in height. A portion of them, the larger trees, were set out about 1868, others in 1876, and when set, all were cut down to poles. The longest row extends by a roadside, for about

fifty rods, where the trees vary in density of foliage and deepness of color, according as the soil and moisture has affected them. Your Committee consider Mr. Killam to be entitled to the premium offered "For best lot of any ornamental trees, set out on any street, road or farm, and cared for five years," and would recommend that such be awarded him.

The trees entered by Mr. Flint are fewer in number than the last, and do not evince so much care during their growth. It is very difficult to compare different species of trees with each other, in competition for the same premium, and, as it is the opinion of your committee that the twelve White Pines, in the lot entered by Mr. Flint, are excellent specimens, they would recommend that a gratuity of $3 be awarded him, for—good specimens of White Pines, planted by a road.

The trees entered by Mr. Jaques, were supposed to be in competition for the "plantation" premium, and it would be difficult under the circumstances, to admit them under "ornamental trees." They are Sweet Chestnuts, a tree not included in the Society's premium list, about 400 in number, and are planted on the top of a hill, where the soil is rather poor. The trees vary some in size, but the larger portion which occupy the centre of the acre covered, are about twelve or fourteen feet high, and three to four inches in diameter at the butt. They have been trimmed up to about six feet from the ground, and present a fresh and vigorous appearance. Your committee, to use the words of one of its members, was painfully impressed, as the wind was blowing a gale, with the necessity for shelter in young plantations, by the introduction of evergreens to be cut away as the progress of growth permits. They are, however, of opinion that the excellent condition of this plantation deserves notice, and would therefore recommend that a gratuity of $10 be awarded Mr. Jaques, for—well cared for plantation of Sweet Chestnuts.

The cultivation of forest trees has not until recently been looked upon as a necessity, in this country, although it has long been of the utmost importance in Europe. The vast demands upon our forests and the ruthless waste of timber producing trees, added to the fearful losses by forest fires, and the premium offered for the destruction of the forests of the United States, by the tax imposed upon Canadian lumber, at last has forced upon us the immediate consideration of this subject.

The greater question of national forests, however, is one with which, as a local Agricultural Society, we are hardly expected to deal, except, so far as it is our duty to educate the public to be prepared for the enactment and enforcement of laws for forest protection. In Massachusetts this has already been begun by the passage of the statute exempting from taxation such lands as may be re-forested, and another statute by which greater penalties are inflicted upon those who, through carelessness, neglect, or with intent, set forest fires. This danger renders the risk of an investment in forest lands, which cannot be insured, so hazardous as to largely discourage what otherwise would be an important and profitable industry in this state, which is so well fitted for producing many species of valuable timber trees. Other duties, however, are before us, duties which every local Agricultural Society has to perform, and which this society has long ago recognized ; the encouragement of small economic and ornamental plantations.

In making a proper choice of trees for this work, something more is required than a mere fancy for the varieties selected. It is necessary that we should know which species will endure the longest and be of the greatest benefit in years to come. If we fail here, disappointment results to ourselves and an injury is done to others who follow us, whereas had our work been rightly performed at the outset, lasting benefits would be reaped. The distribution of trees on the surface of the earth is dependant upon the

rainfall and temperature, locally varied by the condition and composition of the soil. It should be remembered too, that by a long continued process of natural selection, nature has produced for each and every region, the species and varieties of trees which are there best adapted to flourish. This should be carefully considered in making plantations, for any attempt to force trees to grow in uncongenial soil or climate is a crime against nature which she will not tolerate. Thus it will be seen that the question is not one of geography merely. We cannot say that a tree will flourish here solely because its native habitat is within our latitude, for other conditions are to be considered.

A glance at a map of the northern hemisphere, shows us that the configuration of the east coast of the continent of Asia is quite similar to that of eastern North America, and that in the Pacific ocean, as well as in the Atlantic, a warm ocean current, commences at the south west and flowing across the ocean, disappears at the northeast. Therefore the coast climate of our continent closely resembles that of the other; the climate of north eastern Asia, resembling that of New England and eastern North America, while that of California and Oregon is not unlike the climate of western Europe. There are also in various portions of the globe, certain conditions which tend to produce local climates quite different from the surrounding regions, and in some respects, similar to our own.

Working with these facts, we may arrange in order the regions from which we are obliged to select trees for cultivation in New England, and beyond which, unless in rare exceptional cases, it is useless to go to add to our collections.

The order is as follows :— *

First. The North Atlantic region of America, which includes New England and Canada, and extends southward to the mountains of northern Georgia and Alabama, and

* These points are more fully treated in a paper by the present writer, read before the Mass. Horticultural Society, 1881.

broadly to the eastern base of the Rocky Mountains.

Second. The eastern coast of Asia, north of about latitude 38, and including northern China, Manchooria, and northern Japan.

Third. Regions with climates not sufficiently differing from that of New England to interfere with the adaptability of the plants of such regions to our climate. The Central Rocky Mountain region, portions of Siberia, the Caucasus, Toorkistan, and possibly Thibet, are illustrations.

Fourth. To the plants from the regions already indicated, may be added certain cosmopolitan species, which inhabit widely different localities and seem to flourish everywhere in the old world.

Of these the North Atlantic region, which includes our own local flora, possesses a variety of forest trees at least twice as great as is to be found on the whole continent of Europe, and trees too. of acknowledged superiority which have long been sought for and planted in foreign countries. These North Atlantic species have for ornamental planting, the great advantage of producing those beautiful tints, the wonder and charm of our autumnal woods, while the trees of European introduction are brown and dull.

These trees require no introduction here. They include the Red, White and Rock Maples, the Bass-wood, Locust, Cherry, Tupelo, Cucumber Tree, the Ashes, Birches, the hardy Catalpa, the Elms, Hickories, Walnuts, a dozen Oaks, the Chestnut, and among the conifers the Red, White and Pitch Pines, Hemlocks, Firs, and Cedars.

Among the trees most frequently planted here are many European species closely resembling their American relatives but which, however, are not of lasting value. The climate of Western Europe as was previously mentioned, differs much from ours on account of the great influence of the gulf stream which mitigates the winter's cold and moistens the summer's heat, producing a climate more nearly resembling that of Northern California and Oregon,

than our own. In fact, the trees of Oregon flourish well in the climate of England where many of them have been introduced, whereas, with us, excepting a very few species, they would not survive a single season.

Among the European trees of frequent occurrence in cultivation here are the Norway Spruce, Linden, Sycamore, Maple, English Oak, Scotch and Austrian Pines, European Ash, each of which has its respective superior in the American White or Blue Spruces, American Linden, Rock Maple, White and Overcup Oaks, White and Red Pines, and White Ash.

Northern China and Northern Japan having climates similiar to our own, for similar reasons furnish many trees suited for our plantations, some of which have been successfully tried. The region of the Caucasus has furnished two excellent trees likely to continue of value, the Picea orientalis and Abies Normaniana, while others have been introduced from Siberia, Turkestan and Thibet. Among such trees we have the Horse Chestnut which has proved itself exceedingly desirable for certain situations as an ornamental tree possessing a stateliness unsurpassed by almost any other tree, and furnishing, too, a magnificent show of flowers in the latter part of the month of May.

Among the trees from the Pacific slope are some, however, which have such an extended range that selecting specimens or seeds from the extreme limits of their dispersion we are enabled to introduce them successfully here. Two such trees are the Douglas Fir and Picea Pungens or the Blue Rocky Mountain Spruce. These trees, although not hardy when taken from California or when imported from Europe, have proved themselves perfectly hardy when introduced from Colorado. Specimens of both these beautiful trees may now be seen in the neighborhood of Boston, 20 feet high and of beautiful form and growth.

Of the European trees which succeed well in this climate

may be mentioned the English and Dutch Elms, the European Larch, Norway Maple, and the White Willow. These species are of wide range, and seem to flourish in all regions. The English Elm has proved for city streets, a better tree than the more graceful American Elm, although for suburban planting the American species has no equal. It is to be regretted that the desire for quick results has caused, in recent years, the use of the Maple to the exclusion of the Elm, in many of our villages, and the day is not far distant when those beautiful village streets with their arching Elms will be only known in picture and tradition.

The Norway Maple, while resembling our Rock Maple in general appearance, has a larger leaf and fuller, deeper green foliage, and for an ornamental tree is desirable, on account of its abundant yellow flowers which immediately precede the unfolding of the leaves in Spring. This tree, too, is particularly adapted for planting near the sea-shore. The White Poplar might also be mentioned in this connection, but its habit of extensively succoring renders it undesirable in most situations. The European Larch has proved itself better adapted to dry soil than the more meagre foliaged American species whose native habitation is in cold swamps. The last of these trees, the White Willow, is too well known to require mention; it has followed everywhere the settlement of the country, even to having the appearance in some places of a native species.

The ease with which European trees and seeds have been obtained and the difficulty of procuring the seeds even of many desirable American species, has filled our nurseries with European trees to the exclusion of the American ones. Arboriculture has not long been considered scientifically, and no botanical garden hereabouts, has been available for consultation and example. The planting of the Arnold Arboretum at West Roxbury is now well under way, and we may hope that the next generation, at least, of nursery men and tree planters will be able to reap the benefits of

its object teachings. We are fortunate in having this living tree museum located so near us.

The value of certain timber trees is every year increasing, and bearing this in mind it would be well to select, for ornamental planting even, such trees as possess an economic value. Thus the White Ash should be planted in preference to other Ashes, the Rock Maple in preference to the Red or White Maple, the White and Burr Oaks to the Red Oaks, and the Red and White Pines to other coniferous trees. The Butternut, Black Walnut, and White Hickory should have some of the objections to them waived for ornamental trees when we consider their value as timber producing trees.

In making a plantation it should be borne in mind that trees require to have as much preparation of soil, and after care and attention, as cabbages or corn. Too often we see the tree planter snatch from some swamp or hill-side, with roots exposed to wind and sun, the young trees he fancies are to return to him shade and comfort for his labor. Too often are they thrust into holes barely large enough to contain their roots, while they are left to care for themselves, or more likely die.

For ornamental plantations it is far better to purchase the trees outright, of some reliable nurseryman, remembering that in this climate a northern nursery is the best from which to make such selections. For him who is to make an economic plantation, another source is available, provided however, that time is of less importance than money. He may purchase or raise his own seedling trees, which, after three or five years' care in nursery beds, may be finally set out in the plantations.

For ornamental trees, planted singly or in rows, the soil should most generally be removed to a depth of four feet, from a space some eight feet in diameter, unless the natural

soil is particularly favorable. For the plantation on level ground, trenching to a depth of three feet will alone secure the best results. The time and money expended is well invested, for a large outlay in the beginning is often the cheapest and quickest way to insure the best success.

Two things are to be avoided. Planting trees too thickly, and the improper mixing of species. The intermingling of different species in a plantation may be tolerated, and, under certain circumstances, is an advantage; but, for ornamental planting in streets or road-sides, the effect is always best to adhere to one sort of tree.

Many otherwise fine streets in our cities and towns are ruined by the neglect of this rule, and even for lawns and yards, it must be remembered that a few good specimens of two or three sorts is more dignified and satisfactory than a crowded array of different varieties. How many places are marked in our memory to-day, by the recollection of one fine Elm, Horse Chestnut, Maple or Oak. It is not possible here to treat of many things which present themselves in considering this subject. The separate questions of soil, methods of planting, treatment of hill-sides, and of rocky lands, each require a volume for themselves. The subject of tree pruning, too, is one of as much importance as tree selection or tree planting, and for success in either, a knowledge of structural botany is of immense assistance. But, after all, the most depends upon the intelligence of the arboriculturist himself; a bright, thoughtful, studious man will work out for himself far better results than rules laid down in books can do for him. Let him, therefore, ground himself thoroughly in the subject before he commences his work, perhaps, by spending a winter in the study of plant life and structure, for when he works with a knowledge of his subject, his work will be well done.

An appendix has been prepared to this report, giving a list of a dozen books, which may be read with profit by the

tree planter, and also lists of a few good trees for plantations, roads and lawns.

Respectfully submitted,

For the committee, JOHN ROBINSON, *Chairman*.

SALEM, Oct. 16, 1884.

APPENDIX TO REPORT ON FOREST TREES.

(A)

A few books which may be read or consulted with profit, by the tree planter.

Gray's Structural and Systematic Botany. Part I, especially chapters I. to VI., and chapters X. and XI. "The Botanical Text Book," a later edition of this work by the same author has recently been published. Chapters I. to III., and VII. and VIII. cover about the ground of the above. To study either of them carefully throughout, will be profitable. Students desiring to pursue the subject further, may use Bessey's "Botany for High Schools and Colleges," Thome's "Structural and Physiological Botany," and Sach's "Text Book of Botany."

"*Man and Nature*," by George P. Marsh, or a later edition of the same work entitled "The Earth as Modified by Human Action," octavo, 656 pages, New York, Scribner, Armstrong & Co. This is a classical work, and the chapters on forests and kindred topics are full of interest and information.

"*A Treatise on the Theory and Practise of Landscape Gardening adapted to North America*," by Andrew J. Downing, octavo, 575 pages.

"*Trees and Shrubs*," hardy, native and introduced, of Great Britian, by James Loudon, octavo, — pages, Lon-

don. This is an abridgment of a work in six volumes, by the same author. It gives descriptions of species and is fully illustrated.

"*Michaux's North American Sylva*," three vols. and supplement to the same, by Nuttall, gives descriptions and finely colored plates of the forest trees.

"*Trees and Shrubs of Massachusetts*," by George B. Emerson. First edition printed as a state report, 1846, one vol., octavo. Last edition, with colored illustrations, two vol., Boston, Little, Brown & Co., 1875.

"*Practical Forestry*," by Andrew S. Fuller, octavo, 299 pages, New York, Orange Judd & Co., 1884, illustrated.

"*The Elements of Forestry*," by Franklin B. Hough, octavo, 381 pages, Chicago, Robert Clark & Co., illustrated.

"*The Forester*," by James Brown, octavo, 835 pages, London, illustrated.

"*Book of Evergreens*," by Josiah Hoopes, small octavo, 435 pages, New York, Orange Judd & Co.

"*A Treatise on Pruning Forest and Ornamental Trees*," by A. Des Cars, introduction by Prof. Charles S. Sargent, small octavo, 67 pages, illustrated. Published by A. Williams & Co., for Mass. Society for the Promotion of Agriculture. This little volume should be in the hands of everyone who has occasion to prune trees.

"*The London Journal of Forestry*," which is taken at some of our libraries, contains much valuable information for American tree planters. The Mass. State Agricultural Reports contain papers of importance by Sargent, Clarke, and others, and portions of nearly all of the horticultural publications are now devoted to forestry.

For information in relation to strength of timber, the reader may consult "*Timber and Timber Trees*," by Thomas Haslett, London, Macmillan & Co., 1875, octavo, 352 pages, illustrated.

The forthcoming Forestry report, a publication of the

10th Census of the U. S. by Prof. C. S. Sargent, will contain full descriptions of all the North American trees, some 400 in number, with maps of distribution, statistics of strength of timber, amount of ash, &c., &c. This will be a work of great practical value for consultation.

"*Insects Injurious to Forest and Shade Trees*," by Prof. A. S. Packard, octavo pamphlet, 275 pages, being Bulletin No. 7 of the U. S. Entomological Commission, Washington, 1881. This can be obtained of Jas. Anglim & Co., 1424 F St., Washington, D. C., who makes a specialty of obtaining U. S. Publications.

(B)

TWENTY GOOD TREES FOR PLANTATIONS.

Acer saccharinum (Rock or Sugar Maple).
Robinia Pseudacacia (Locust).
Fraxinus Americana (White Ash).
Catalpa speciosa (Western Catalpa).
Juglans cinerea (Butternut).
Juglans nigra (Black Walnut).
Prunus serotina (Black Cherry).
Carya alba (Shagbark Hickory).
Carya sulcata (Western Hickory).
Quercus alba (White Oak).
Quercus macrocarpa (Over-cup or Burr Oak).
Castanea vulgaris, var. Americana (Sweet Chestnut).
Fagus ferruginea (Beech).
Tsuga Canadensis (Hemlock Spruce).
Chamaecyparis sphaeroidea (White Cedar), for swamps.
Pinus strobus (White Pine).
Pinus resinosa (Red Pine).
Pinus rigida (Pitch Pine), for sandy places.
Pseudotsuga Douglasii (Douglas Fir).
Larix Europaea (European Larch).

(C)

FIFTEEN GOOD TREES FOR ROAD-SIDES.

Acer saccharinum (Rock or Sugar Maple).
Fraxinus Americana (White Ash).
Tilia Americana (Basswood).
Ulmus Americana (Elm).
Carya alba (Shagbark Hickory).
Quercus alba (White Oak).
Quercus Muhlenbergii (Chestnut Oak).
Quercus coccinea (Scarlet Oak).
Quercus tinctoria (Black Oak).
Castanea vulgaris var. Americana (Sweet Chestnut).
Ulmus campestris (European Elm), for city streets.
Ulmus montana (Dutch Elm).
Acer platanoides (Norway Maple), near the sea shore.
Populus alba (Silver Poplar), near the ocean.
Salix alba (White Willow), damp places and sea shore.

(D)

THIRTY GOOD TREES FOR LAWNS, PARKS AND SINGLE SPECIMENS.

Magnolia acuminata (Cucumber Tree).
Liriodendron tulipifera (Tulip Tree).
Aesculus flava (Sweet Buckeye).
Acer dasycarpum (White Maple), near water.
Acer rubrum (Red Maple), for low lands.
Pyrus coronaria (American Crab Apple).
Gymnocladus Canadensis (Kentucky Coffee Tree).
Catalpa speciosa (Western Catalpa).
Nyssa multiflora (Tupelo) near water.
Sassafras officinalis (Sassafras).
Fraxinus quadrangulata (Michigan Ash).
Ulmus fulva (Slippery Elm).
Ulmus racemosa (Rock Elm).
Quercus species (Oaks).

Ostrya Virginica (Hop Hornbeam).
Betula papyracea (Canoe Birch).
Pinus resinosa (Red Pine).
Tsuga Canadensis (Hemlock Spruce).
Picea alba (White Spruce).
Picea pungens (Blue Rocky Mountain Spruce).
Pseudotsuga Douglasii (Douglas Fir), from Colorado.
Pinus ponderosa, var. scopulorum, Rocky Mountains.
Morus alba (White Mulberry).
Aesculus Hippocastanum (Horse Chestnut).
Quercus cerris (Turkey Oak).
Pinus densiflora, from China.
Gingko biloba (Gingko Tree).
Picea orientalis, from the Caucasus.
Abies Nordmaniana, from the Caucasus.
Larix Europaea (European Larch).

(E)

TWENTY GOOD TREES OF LESSER GROWTH, SUITABLE FOR SMALL PLACES AND YARDS.

Magnolia, several American and two Chinese species.
Cladrastis tinctoria (Yellow-wood).
Cercis Canadensis (Red-bud).
Crataegus (Hawthornes), several American species.
Halesia tetraptera (Silver bell Tree).
Chionanthus Virginica (Fringe Tree).
Castanea pumila (Chinquapin).
Betula alba, var. populifolia (White Birch).
Tamarix Chinensis (Chinese Tamarisk).
Acer Tartaricum, var. Ginnala (Fragant Maple).
Acer polymorphum, and other Japanese Maples.
Pyrus spectabilis (Flowering Apple).
Caragana arborescens.
Acer Pennsylvanicum (Striped Maple).
Acer circinatum (Round leafed Maple).

Acer campestre (Field Maple).
Salix lucida (Shining Willow).
Chamaecyparis (Retinosporas), several varieties.
Juniperus Chinensis (Chinese Cedar).

THE TREADWELL FARM.

The committee on the Treadwell Farm, would submit the following report:

The Treadwell Farm is leased for a term of years, to Mr. Thomas W. Pierce, of Topsfield. One of the conditions of the lease is, that he will make such experiments on the farm, as the committee shall require; the same to be made under the direction of the farm committee. Another condition of the lease is, that certain specific improvements shall be made on the land, by clearing the pastures of savins, and other bushes and shrubs that are now too plentiful on the farm.

The committee are happy to report that these conditions are being complied with by Mr. Pierce.

The farm is in a very good state of cultivation; equal to any farm in the county of its grade; and it seems to be the aim of the present lessee to keep it so. The experiments made on the farm, under the direction of the committee, the past year, were to test the value of unleached ashes, on different crops, applied in different ways, and at different times, in comparison with barnyard manures. The crops on which the ashes were tried were, corn, Hungarian grass and Mangold wurtzels; the result of which may be seen in the statement of the superintendent of the farm, annexed to this report.

The committee have visited the farm several times during the past summer and fall, and from a very careful observation, we are of the opinion that the annexed statements of the superintendent are substantially correct, and we

think these results have settled the question of the value of unleached ashes, especially for some crops, and on certain lands. The ashes used in these experiments were the hard-wood ashes from Canada; but the superintendent of the farm is of the opinion that leached ashes are as profitable to the farmer as unleached, if you can purchase them at one-half the price of the unleached; that is, when the unleached cost thirty-three cents per bushel, the leached are worth sixteen cents per bushel.

Notwithstanding the favorable results reached by these experiments, your committee would not recommend to the farmers of the county a free and indiscriminate use of ashes: for, on much of our land, no such results would have been realized. We know of lands that are now so rich in potash that a dressing of ashes would not make any perceptible difference in the crop, unless it would be to diminish it. Every farmer must test the quality of his lands, and ascertain the need of the soil, and then must supply that need in the most economical way possible to him. We have no doubt that many thousand dollars are worse than wasted, by our farmers, by feeding their land with the very substances that are there now, and that in great abundance.

But the experiments in the use of ashes, made under the direction of the committee, on the Treadwell farm, the past year, prove conclusively that the judicious use of ashes is an economical investment for our farmers who are compelled to purchase fertilizers in the market.

Your committee would request the members of the Society to suggest any experiments they would like to have made on the Treadwell farm the coming year.

O. S. Butler, *for the Committee.*

STATEMENT.

PIERCE FARM, Nov. 6, 1884.

Mr. Chas. P. Preston, Secretary E. A. Society:

DEAR SIR:—I am glad to be able to report, that there has been a very fruitful and prosperous year, on the Treadwell Farm, as it is now ended with a bountiful harvest.

I have applied, during the season,—20 cords slaughter-house manure, 54 cords stable manure, 115 bush. unleached ashes, 500 lbs. Bradley's Fertilizer.

PRODUCT.

1816 bush. corn, 35 tons, 850 lbs. stover (weighed), 18 tons, 925 lbs. Hungarian (weighed), 6½ tons English hay (weighed), 10 tons rye straw (*estimated*), 115 bush. rye, 58 tons 1150 lbs. mangel wurtzel, 14 bush. beans, 9 bbls. apples, 9 tons meadow hay, were grown on the farm, the past year.

An experiment with two acres of Hungarian was made, to show the effect between stable manure and ashes, with result as follows:—On one acre, was applied three cords stable manure, harrowed in; producing 5275 lbs. of hay. On the other acre, sixty bushels unleached ashes, producing 3810 lbs.; that grown on ashes being superior in quality to that on the stable manure, with less weeds in it.

Another experiment, with mangolds was made, to show the difference between ashes and Bradley's Fertilizer, and also between level and ridge culture. The entire piece had four cords of manure to the acre, ploughed in. One-half acre was sown on the level, and one-tenth part of the seed did not come up. I think it was owing to a heavy rain two days after sowing. Later, it was seeded to Hungarian. Another half-acre, ridge culture, with 350 lbs. of Bradley's Fertilizer applied, produced 24,475 lbs. mangolds. Another half-acre, with twenty bushels unleached ashes applied, produced 20,325 lbs. mangolds. Those which were grown on

Bradley's Fertilizer started first, and looked better all through the season.

LONGFELLOW CORN.

Another experiment with corn, viz.:—On one and one-half acres there was six cords stable manure ploughed in. On one-quarter acre was planted Longfellow corn ; and after planting, had nine bush. ashes sprinkled over the hills; produced thirty bushels corn. Another one-quarter acre planted ; the same seed, with nine bushels ashes applied around the hills before hoeing, produced thirty-one bushels. Another one-quarter acre without ashes, produced twenty-nine bushels.

MILLIKIN'S PRIZE CORN.

One-quarter acre, with nine bushels ashes applied at planting, produced thirty-four bushels. Another one-quarter acre with nine bushels ashes applied at hoeing time, produced thirty-one bushels. Another one-quarter acre, without ashes, produced thirty bushels.

One bushel of ashes was applied to one square rod of vacant land where moss had come in ; and before haying, you could notice the difference some way off.

Yours Respectfully,

DENNIS F. MACAULEY.

IN MEMORIAM.

REMARKS BY HON. GEORGE B. LORING.

Mr. President :

It has long been a proper and sacred custom of this Society to remember at its annual meeting, those who, during the year, have left us and have gone to their reward. When the older members of our body pass away, we feel that the laws of nature are all fulfilled, that the harvest is ended, that they are gathered in like " a shock of corn fully

ripe." But, when the young—those who have just entered upon life, whose career is still open before them—are called to close the great account, and are borne to a higher life, we are filled with sorrow for those who remain, and with bewilderment that the promise can never be fulfilled, and the work must forever go unfinished. We have enrolled many venerable and honored names in the list of the departed—and now we are called upon to pay a tribute to the memory of those who had just entered upon their labors.

Within a few months, Mr. Fred. St. Clair Herrick has been summoned, after a long and trying illness, which he bore with heroic fortitude and courage. He had been identified during the few years of his maturity, with that great industry which this Society represents. His mind had been cultivated for his work. A graduate of our Agricultural College, he commenced immediately on the completion of his studies, to apply those principles which he had carefully and studiously explored, to the management of a farm, and to the cultivation of the soil. To this work he brought intelligence, industry and zeal. His work was well done. His heart was in his occupation. And he led, while living, a life of usefulness and industrious application and success in the calling he had chosen. While we mourn with those who have lost a loved one from the family circle, and sympathize with the bitter disappointment which falls upon those who had prepared him for his career, we feel deeply the loss which his death has brought upon our calling, and the importance of impressing his memory and example on the minds of the young men of this county.

We have also lost Mr. R. C. Ware, a young man of great promise, whose mind was devoted to agricultural investigation, and whose tastes were fitted by inheritance and by education and example in his own home, to the business of farming. He was the son of our honored President. His grandfather was one of the leading farmers of Essex County, during a long and useful life. An opportunity for

usefulness was opening before him, and his mind was prepared to pursue the calling of his fathers, with industry and zeal. His natural powers of investigation and his natural capacity for stating his views and conclusions promised to make him a valuable teacher in the art and science of agriculture ; and the position of his father presented him an unusually fortunate opportunity to pursue his work to his own advantage and ours. But he is gone, and the work he had undertaken must be consigned to other hands. We deplore our loss, the loss of this community, and grieve for the sad loss to his family and friends.

I desire to offer, Mr. President, the following resolutions :—

Resolved, That by the death of Frederick St. Clair Herrick and Robert C. Ware, this Society loses two of its young and promising members ; and the cause of agricultural progress and improvement is deprived of two of its most energetic and devoted laborers and advocates. Born and educated in Essex County, where they were surrounded by those active industries which tempt young men away from the land, they entered upon the work of cultivating the soil and studying the best modes of farming with a diligence and a zeal which promised themselves and this community, a useful and honorable career. This Society laments their loss, and extends to their family and friends, its warmest sympathy in their bereavement.

Resolved, That the Secretary of the Society is hereby instructed to send copies of these resolutions to the families of the deceased.

The committee, appointed by this Society, at its last annual meeting, to prepare appropriate notice of the death of other members of the Society, during the past year, to be published in its transactions, submit the following :—

John P. Palmer, of Swampscott, a leading citizen of that town, having served for many years as Chairman of the Board of Selectmen, also, on the School Committee, was a prominent member of this Society, and for many years chosen a trustee, being a member of the Board of Trustees at the time of his death. He owned and managed a large farm in Swampscott, and was constant in his attendance at all of the meetings of the Board of Trustees, as well as those of this Society; always ready and prompt in attending to all of the duties assigned him. At the time of his decease he was President of the Swampscott and Marblehead Farmers' Club, which he organized two years before, and much of the success of the club was due to his constant care for its best interests.

He was a genial man, social in his nature, as well as one of the most determined and persistent of men, in gaining any object, which seemed right to him. No obstacle appeared insurmountable to his indomitable courage. The farmers of Essex are indebted to his persistent efforts in making Salem Turnpike and Beverly Bridge free of tolls; and, in consequence, every other toll bridge and turnpike in the State. He experienced what appeared to him a hardship and injustice, by the tolls exacted in teaming his farm produce to Boston market, and decided they ought to be abolished, and he worked upon public opinion and the legislature until it was done. To be confronted by the "perpetual charter," granted to those corporations (as they claimed), was nothing to him. He proved to them that whenever a charter granted to a corporation, ceased to be a benefit to the people, the same power that granted it had the power to revoke it, which may serve a profitable hint to other corporations.

The same persistant effort which he made in behalf of other important public enterprises resulted in the same success, and we are happy to place on record an acknowledg-

ment of the debt of gratitude which the public owe to his memory. Surely, such a man is missed from our midst.

Joseph Newell of West Newbury, David S. Caldwell of Newbury, and Amos Perley Johnson of Bradford, were also respected members of this Society, and have passed on and from us, during the last year. Therefore

Resolved, That by the death of the above named members of this Society, who each filled a place in it particularly fitted to his own peculiar ability, which is now vacant, whose loss we regret and sincerely mourn.

Resolved, That the sympathy of this Society is with the families of these deceased members, and may they be able to feel reconciled to the decree of Him who doeth all things well.

BENJAMIN P. WARE, *for the Committee.*

FARMERS' INSTITUTES.

The 23rd Institute was held at Peabody, December 27, 1883.

Subjects for discussion: Fertilizers, by J. J. H. Gregory, The Field Culture of Roots and Vegetables, by Benj. P. Ware.

The 24th Institute was held at Newburyport, January 16, 1884.

Subjects: Drainage of Land, by T. C. Thurlow; The Prospect of Farmers in the Next Ten Years, by Warren Brown.

The 25th Institute was held at Bradford, February 7, 1884.

Subjects: The Relation of the Seed Grower to the Farmer, by J. J. H. Gregory; The Education of Farmers' Sons, by John L. Shorey.

The 26th Institute was held at Salem, February 14, 1884.

Subjects: The Duties of Farmers' Wives, by Mrs Edwin V. Gage; English Agriculture, by John E. Russell.

The 27th Institute was held at Lawrence.

Subjects: Poultry in all its Branches, by M. Walsh Bartlett; Plants Grown under Glass for the Flower and Vegetable Gardens, by Edward E. Woodman.

The 28th Institute was held at Ipswich, March 13, 1884.

Subjects: Cultivation and Marketing of Pears, by G. A. Tapley, of Revere; The Production and Sale of Milk, by Asa T. Newhall.

The 29th Institute was held at Salem.

Subjects: The Duties of Farmers, by Mrs. Martha J. D. Gage; What can the Agricultural College do for our Young Men, by President J. C. Greenough.

CHAS. P. PRESTON, Sec'y.

REPORT OF THE COMMITTEE ON ESSAYS, REPORTS AND STATEMENTS.

The committee to whom was assigned the duty of reviewing the Essays, Reports and Statements have found but little to do this year, so few papers have been submitted for their consideration. But a single Essay was offered, and this did not quite come up to the standard of excellence which the committee desire to maintain in the Publications of the Society. The Reports handed in were also less full and particular than heretofore, and the committee awarded but two premiums thereon.

They had no hesitation in awarding the first premium of ten dollars for the best Report, to Mr. John Robinson, for his excellent paper upon "Forest Trees." This is a very full and comprehensive account of the whole subject in all respects which concern our farmers and gardeners,

and hence it is not only highly interesting but instructive and valuable.

The committee awarded the second premium of eight dollars to Mr. Benj. P. Ware, for his report upon "Experiments with Manures. The critical and suggestive remarks of the writer seem to be worthy of careful consideration, as contributing useful thoughts upon a subject of very great importance.

No award was made of the third premium.

The committee have been authorized for several years to award premiums for the "best Statements," but have not done so for the reason that they have not known what is expected of them by the society. They have assumed that Statements submitted as vouchers in claims for premiums on crops, &c., could not come within the society's intention, as the Statements in such cases are essential elements in the claim and perhaps determine the whole matter.

It can hardly be intended to award two premiums, one for the exhibit and another for the explanatory statement, and it would certainly be inconsistent to award a premium for the statement if the exhibit were unsatisfactory; nor would it be easy to approve of the exhibit and condemn the statement. The committee have therefore considered such statements, as being outside of their province, and having also failed to see to what other Statements their instructions could apply, they have simply done nothing. But they would respectfully suggest that it is desirable to define the intentions of the society in offering premiums for "best Statements," in order that the committee may be correctly guided hereafter.

GILBERT L. STREETER, *Chairman.*

N. M. Hawkes, Dan'l E. Safford, Chas. P. Preston.—*Committee.*

REPORT OF DELEGATE.

To the Essex Agricultural Society's Trustees:

As a delegate from your Society, to visit Societies and Clubs of like nature, holding Fairs, or Exhibitions in this County, I would respectfully report that the only Fair or Exhibition coming to my knowledge was the 21st Annual Fair of the "Amesbury and Salisbury Agricultural and Horticultural Society," held at Amesbury, Oct. 2d and 3d, 1884, at which $320 was offered in premiums and gratuities, *including* $30 for Drawing and Plowing matches, and $10 for Agricultural Implements. The total attendance during both days, was about 1800, and the total expenses, including awards, was estimated at $475.

I visited the Exhibition in Opera Hall, about noon, the second day of the Fair, and found the hall well arranged, and well filled with a good quality of exhibits, some of which in special departments could be classed as excellent, especially in the Cereals, Potatoes in the Vegetable department, certain varieties of Fruits and Flowers, and several exhibits in the Art, Fancy work, and Rug departments. The Exhibition in all its departments, was a credit to that, or any, local society. I had in mind for comparison, one in a smaller town than Amesbury, which I visited in a previous year, which was with hardly an exception by local contributors, and which exceeded it in almost every department, both in number of contributors and contributions, equalling in quality every department except in Art and Cereals, and exceeding it in the amount awarded hall exhibitors.

In another hall in Amesbury, the exhibit of Poultry and Pigeons was small and good, and Agricultural Implements were well represented.

The "Ploughing Match," which took place the forenoon of the day I visited this Fair, had six entries, and is said to

have been well attended, and created much interest. The Society also awarded premiums for reclaimed pasture land, field crops, etc.

(*See particulars in* 1880 *Transactions, report of F. H. Appleton*).

This Society has, in years past, contributed towards the setting out of shade trees, by the highways, which improvement, is recommended to the attention of all local agricultural societies, and farmers' clubs, and to interested individuals, by organizing Improvement Societies, in communities, for a like purpose; for whatever improvements are made, tending to make any place attractive, adds largely to its value, by drawing to it summer and permanent residents, for pleasure, health and business purposes.

This Society holds Club and Institute meetings which are quite interesting and instructive, though not largely attended.

All the local Farmers' Clubs and Societies in the County organized for the promotion of Agriculture and Horticulture, should receive words of encouragement from the County Society, when not organized to supplant the County Society in any section, as they become auxiliaries from which the County Society receives increased attention and benefit by the aroused interest specially created by them. I would therefore recommend that our Society in addition to its recognition of them by appointing delegates to visit them, also invite the Secretary of each, to furnish a brief history of their organization if not heretofore published, and hereafter a yearly summary of its doings, for publication with the transactions of this Society.

Very respectfully yours,

David W. Low.

AMENDMENT TO THE CONSTITUTION.

The following amendment to Article Second is proposed to be acted on at the next annual meeting of the Society.

Amendment. There shall be an annual meeting of the Society some time in the month of January, at such time as the President and Secretary may determine, for the election of all such officers as are provided for in Article One, and to transact all other business that may legally come before them. The next annual meeting of the Society shall be held at Topsfield, and thereafter at such places as the Society shall determine. Twenty members at least shall constitute a quorum.

DR. GILBERT L. STREETER, TREAS., IN ACC'T WITH THE ESSEX AG. SOCIETY. CR.

1883.					
Oct. 1.	To Bank Dividends for October,	$418 30		By balance of previous account,	$140 67
Nov. 1.	To Cash received from Committee in charge of annual exhibition,	865 67	Sept., 1883.	By amount of Premiums and Gratuities awarded by Trustees,	1,470 75
Nov. 7.	To State Bounty received from State Treasurer,	600 00		Bills paid on account of annual exhibition,	45 75
Nov. 24.	To State Tax on Bank Stocks refunded,	241 46		Bills paid for Printing and Advertising,	348 31
1884.				Bills on acct. of Institutes and Excursions,	46 39
Jan. 11.	To Cash received for new members,	135 00		Rent paid to Salem Athenæum,	25 00
Jan. 28.	To Cash received for wood sold at Treadwell Farm,	14 90		Secretary's account,	257 68
April 1.	To Bank Dividends for April,	407 80		Treasurer's account,	51 25
July 27.	To Rent of Treadwell Farm,	300 00		Balance,	666 83
Sept. 1.	Amount of unclaimed premiums,	69 50			
		$3,052 63			$3,052 63

FUNDS BELONGING TO THE SOCIETY, OCTOBER, 1884.

	Cost.	Market Value.
10 shares in Nat. Hide and Leather Bank, Boston,	$1,101 87	1,100 00
3 shares in Nat. Revere Bank, Boston,	377 62	351 00
18 shares in First National Bank, Salem,	1,914 66	2,214 00
18 shares in Salem National Bank, Salem,	2,000 00	2,160 00
42 shares in Asiatic National Bank, Salem,	1,281 25	1,890 00
12 shares in Mercantile National Bank, Salem,	1,226 50	1,416 00
23 shares in Merchants' National Bank, Salem,	1,189 50	1,495 00
5 shares in First National Bank, Danvers,	375 00	425 00
8 shares in National Exchange Bank, Salem,	800 00	960 00
16 shares in Warren National Bank, Peabody,	1,595 40	2,192 00
15 shares in South Danvers National Bank, Peabody,	1,441 25	2,250 00
Cash on hand,	666 83	666 83
	$13,969 88	17,119 83
Funds reported last year,	13,212 81	
Gain,	757 07	

GILBERT L. STREETER, Treasurer.

Salem, Nov. 15, 1884.

Salem, Dec. 5, 1884.

The above account has been examined this day, and found correctly cast and properly vouched and the funds on hand correctly reported.

JOS. H. PHIPPEN, Auditor.

OFFICERS OF THE SOCIETY,
FOR 1884-85.

PRESIDENT.

BENJAMIN P. WARE, OF MARBLEHEAD.

VICE-PRESIDENTS.

GEORGE B. LORING, of Salem.
J. J. H. GREGORY, of Marblehead.
THOMAS C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

HONORARY TRUSTEE.

JOSEPH HOW, of Methuen.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

TREASURER.

GILBERT L. STREETER, of Salem.

TRUSTEES.

Francis H. Appleton, Peabody.	Geo. A. Currier, Middleton.
Oliver S. Butler, Georgetown.	E. G. Dole, Salisbury.
Wm. A. Brown, Hamilton.	Andrew Dodge, Beverly.
Henry A. Bodwell, Andover.	George W. Gage, Methuen.
Benj. S. Barnes, Boxford.	J. Henry Hill, Amesbury.
Zachariah Cole, Wenham.	Wm. H. Haskell, Merrimac.

William Hilton, Bradford.
Gilbert E. Hood, Lawrence.
Samuel Hawkes, Saugus.
Alonzo F. Harvey, Gloucester.
Aaron Low, Essex.
Thos. K. Leach, Topsfield.
Andrew Lane, Rockport.
Andrew Mansfield, Lynnfield.
Andrew Nichols, Danvers.
John Price, Manchester.
Wm. S. Phillips, Jr., M'head.
James C. Poor, No. Andover.
Moses H. Poore, W. Newbury.
Joseph N. Rolfe, Newbury.
John L. Shorey, Lynn.
Abel Stickney, Groveland.
Frank P. Todd, Rowley.
J. C. Underhill, Ipswich.
Richard Webster, Haverhill.
Horace C. Ware, Salem.
David Warren, Swampscott.
J. Otis Winkley, Newburyport.

NEW MEMBERS—1884.

Rufus H. Brown, Peabody.
Edgar J. Bliss, Beverly.
Levi H. Bassett, N. Andover.
Daniel Cummings, Peabody.
Thomas Carroll, Peabody.
Michael Cronin, Marblehead.
John J. England, Merrimac.
George M. Foster, Peabody.
J. W. Goodell, Lynn.
John H. Gustin, Danvers.
S. T. Lewis, Lawrence.
Andrew Lane, Jr., Rockport.
Edward E. Pearl, Boxford.
John Parkhurst, Boxford.
Levi Preston, Peabody.
David Pingree, Salem.
George Pettingill, Salem.
Warren G. Perkins, Danvers.
Henry W. Putnam, Salem.
E. F. Rowell, Salem.
F. A. Whitman, Wenham.
Edw. E. Woodman, Danvers.

LIST OF PREMIUMS.

FAT CATTLE.

Salem City Farm, pair oxen, first premium.	10 00
Salem City Farm, pair oxen, second premium,	8 00

BULLS.

D. A. Massey, Danvers, Ayrshire bull over two years, first premium,	8 00
D. F. Barrett, Salem, Jersey bull over two years, second premium,	4 00
Stephen K. Fowler, West Boxford, Jersey bull under two years, first premium,	4 00
Wm. A. Russell, Lawrence, Holstein bull under two years, second premium,	2 00
B. P. Ware, Marblehead, Ayrshire bull, any age or breed, special premium,	12 00

MILCH COWS.

Andrew Dodge, Beverly, Milch cow, special premium,	15 00
Wm. A. Russell, Lawrence, Holstein cows, first premium,	10 00
Wm. A. Russell, Lawrence, Holstein cows, second premium,	4 00
E. F. Rowell, Salem, cow giving most milk, first premium,	10 00
J. S. Ives, Salem, cow giving most milk, second premium,	4 00

HERD OF MILCH COWS.

Wm. A. Russell, Lawrence, herd, first premium,	18 00
Salem City Farm, herd, second premium,	12 00

HEIFERS—FIRST CLASS.

B. P. Ware, Marblehead, Ayrshire in milk, first premium,	10 00
D. A. Massey, Danvers, Ayrshire in milk, second premium,	4 00
D. A. Massey, Danvers, Ayrshire, one year, first premium,	4. 00
D. A. Massey, Danvers, Ayrshire one year, second premium,	2 00
B. P. Ware, Marblehead, Ayrshire calf, first premium,	4 00
D. A. Massey, Danvers, Ayrshire calf, second premium,	2 00
Wm. A. Russell, Lawrence, Holstein in milk, first premium,	10 00
Wm. A. Russell, Lawrence, Holstein in milk, second premium,	4 00
Wm. A. Russell, Lawrence, Holstein one year, first premium,	4 00

Wm. A. Russell, Lawrence, Holstein one year, second premium,	2 00
Wm. A. Russell, Lawrence, Holstein calf, first premium,	4 00
Wm. A. Russell, Lawrence, Holstein calf, second premium,	2 00

HEIFERS—SECOND CLASS.

Michael Cronin, Marblehead, grade in milk, first premium,	10 00
Timothy O'Keefe, Peabody, grade in milk, second premium,	4 00
Stephen Blaney, Peabody, grade one year, first premium,	4 00
Daniel Cummings, Peabody, grade one year, second premium,	2 00
Wm. B. Christopher, Middleton, grade calf, first premium,	4 00
L. W. Goldthwaite, Danvers, grade calf, second premium,	2 00

WORKING OXEN AND STEERS.

J. J. H. Gregory, Marblehead, oxen, first premium,	12 00
O. Loring Carlton, Middleton, oxen, second premium,	10 00
B. H. Farnham, No. Andover, oxen, third premium,	8 00
H. P. Noyes, Newbury, steers, first premium,	10 00
W. W. Perkins, Newbury, steers, second premium,	6 00

TOWN TEAMS.

Town of Middleton, oxen, first premium,	20 00

STEERS.

Frank Perkins, Newbury, steers, first premium,	5 00
Wm. B. Christopher, Middleton, steers, second premium,	4 00
Jonas Rollins, Danvers, steer calves, first premium,	4 00

BROOD MARES.

Clarence Day, Danvers, mare, first premium,	10 00
Jas. J. Abbott, Andover, mare, second premium,	6 00
Town of Saugus, Norman mare, third premium,	4 00

FAMILY HORSES.

Chas. Sanders, Salem, horse, first premium,	10 00
O. S. Butler, Georgetown, mare, second premium,	6 00
T. K. Leach, Topsfield, mare, third premium,	4 00

FARM AND DRAFT HORSES.

B. H. Farnham, No. Andover, first premium,	10 00
Jonas Rollins, Danvers, second premium,	6 00
N. P. Proctor, Danvers, third premium,	4 00

PAIRS OF DRAFT HORSES.

John C. Phillips, Beverly. first premium,	12 00
Walter F. Dodge, Beverly, second premium,	8 00
E. P. Perley, Danvers, third premium,	4 00

COLTS—FIRST CLASS.

Warren G. Perkins, Danvers, four years, first premium,	10 00

COLTS—SECOND CLASS.

H. H. Demsey, Wenham, one year, first premium,	6 00
John Looney, Salem, one year, second premium,	4 00

SWINE—FIRST CLASS.

John C. Phillips, Beverly, large Yorkshire boar, first premium,	8 00
Danvers Insane Hospital, breeding sow, first premium,	8 00
John C. Phillips, Beverly, breeding sow, second premium,	5 00
B. P. Ware, Marblehead, weaned pigs, second premium,	5 00

SWINE—SECOND CLASS.

Salem City Farm, Yorkshire boar, first premium,	8 00
Salem City Farm, Chester white boar, second premium,	5 00
Salem City Farm, Poland China Breeding Sow, first premium,	8 00
T. C. Durkee, Peabody, breeding sow, second premium,	5 00

SHEEP.

J. C. Phillips, Beverly, lot of ten, first premium,	10 00
J. C. Phillips, Beverly, buck, first premium,	8 00
Danvers Insane Hospital, lambs, first premium,	4 00

PLOUGHING—DOUBLE TEAMS.

B. H. Farnham, North Andover, first premium,	12 00

PLOUGHING—SINGLE TEAMS.

Charles J. Peabody, Topsfield, first premium,	8 00
D. A. Massey, Danvers, second premium,	5 00

PLOUGHING WITH HORSES.

Walter F. Dodge, Beverly, first premium,	12 00
J. J. H. Gregory, Marblehead, second premium,	10 00
T. C. Durkee, Peabody, third premium,	8 00
J. C. Phillips, Beverly, fourth premium,	6 00

PLOUGHING—THREE HORSES.

Frank Perkins, Newbury, first premium,	10 00

PLOUGHING—SWIVEL PLOUGH.

Jonas Rollins, Danvers, horses, first premium,	10 00
E. P. Perley, Danvers, horses, second premium,	6 00
Wilkins & Christopher, Middleton, oxen, first premium,	12 00

PLOUGHING—SULKY PLOUGH.

Danvers Insane Hospital, Cassady Plough, first premium,	10 00

GRAIN CROPS.

William Little, Newbury, wheat crop, first premium,	10 00
C. W. Mann, Methuen, corn crop, first premium,	10 00
H. W. Longfellow, Newbury, corn crop, second premium,	5 00
William Little, Newbury, rye crop, first premium,	10 00
Richard Newell, West Newbury, rye crop, second premium,	5 00

ROOT CROPS.

J. J. H. Gregory, Marblehead, onion crop, first premium,	10 00
H. W. Longfellow, Newbury, onion crop, second premium,	5 00
Daniel Carlton, North Andover, cabbage crop, first premium,	10 00
Sidney F. Newman, Newbury, squash crop, first premium,	10 00

FOREST TREES.

Oliver P. Killam, Boxford, ornamental trees, first premium,	10 00
Romulus Jaques, West Newbury, ornamental trees, gratuity,	10 00
James Flint, Middleton, ornamental trees, gratuity,	3 00

REPORTS.

John Robinson, Salem, report on Forest Trees, first premium,	10 00
Benj. P. Ware, Marblehead, report on Manures, second premium,	8 00

SCHOLARSHIPS MASS. AGRICULTURAL COLLEGE.

Joseph Martin, Marblehead,	25 00
George E. Newman, Newbury.	25 00

Awarded by Committee on Poultry,	41 00
" " " " Agricultural Implements,	24 00
" " " " Carriages,	28 00
" " " " Dairy,	24 00

Awarded by Committee on Bread, Honey, etc.,	23 50
" " " " Fruit,	278 00
" " " " Flowers,	62 00
" " " " Vegetables,	141 50
" " " " Counterpanes, &c.,	37 50
" " " " Articles manuf'd from Leather,	20 00
" " " " Manufactures and merchandise,	17 00
" " " " Fancy Work and Works of Art,	50 50
" " " " Children's Work,	8 00
	$1,486 00

RECAPITULATION.

FARMS.

Amount awarded to Ploughing,	$109 00

FARM STOCK.

Amount awarded to Fat Cattle,	18 00	
" " " Bulls,	30 00	
" " " Milch Cows,	43 00	
" " " Herd of Milch Cows,	30 00	
" " " Heifers,	78 00	
" " " Working Oxen,	46 00	
" " " Town Teams,	20 00	
" " " Steers,	13 00	
" " " Horses,	84 00	
" " " Colts,	20 00	
" " " Swine,	52 00	
" " " Sheep,	22 00	
" " " Poultry,	41 00	
		$497 00

FARM PRODUCTS.

Amount awarded to Grain Crops,	40 00	
" " " Root Crops,	35 00	
" " " Dairy,	24 00	
" " " Bread, Honey, etc.,	23 50	
" " " Fruits,	278 00	
" " " Flowers,	62 00	
" " " Vegetables,	141 50	
		$604 00
All other objects,		276 00
Total,		$1486 00

LIST OF MEMBERS

OF THE

Essex Agricultural Society.

1884.

NOTE.—Those marked with a * deceased since 1868; with † removed from the county. For names of members deceased previous to 1869, refer to list published that year.

ANDOVER.

Abbott, James J.
Abbott, Nathan F.
Abbott, Asa A.
*Abbott, George A.
Abbott, Moses B.
Abbott, Hartwell B.
Abbott, John B.
*Abbott, Moody B.
Abbott, Stephen D.
*Abbott, Sylvester
Andrews, M. C.
*Ballard, Joshua
*Bardwell, Simeon
Barnard, Edwin H.
Bailey, Moses A.
Bean, Samuel G.
Blunt, Charles C.
Blunt, J. H.
Bodwell, H. A.
*Bond, William
Buchan, George
Callahan, Robert
Carter, Charles L.
Carruth, Isaac,
†Chamberlain, N. Jr.
*Chandler, Joseph
Chandler, Joshua H.
Cheever, James O.
*Chickering, William
*Chipman, Degrass
*Clark, Hobart
Cummings, C. O.
Downing, J. J.
*Farnham, John C.
*Flint, John
Flint, John H.
Foster, George
Foster, George W.
Foster, Moses
*Foster, Thomas C.
Foster, George C.
*Gray, David
Gulliver, Francis
Gutterson, George
Harnden, Henry C.
Harriman, Thos. P.
Hazen, Nathan W.
Hidden, David I. C.
*Holt, Dean
Holt, E. F.
*Holt, Herman
Holt, Ballard
*Holt, H. P.
Jenkins, John B.
Jenkins, E. Kendall
Johnson, Francis H.
Johnson, S. K.
*Kimball, Walter H.
Mason, George F.
*Merrill, William
Morton, Marcus
*Needham, Samuel
*Pettingill, Merrill
*Phelps, Herman
*Pillsbury, Paul P.
Rea, Jasper
Robinson, Addison M.
*Rogers, Fitzwilliam
Smith, James B.
Smith, John L.
*Smith, Peter
Smith, Peter D.
Smith, Benjamin F.
Upton, Edward C.
*Whittier, Nathaniel

AMESBURY.

Bailey, O. S.
*Bailey, Thomas
*Binney, William C.
Cammet, Samuel
Gale, Edmund
Hill, Albert C.
Hill, J. Henry
Huntington, B. F.
*Jones, Philip
†Moore, Appleton
Morse, Daniel L.
*Morse, John S.
*Nichols, Stephen, Jr.
Sawyer, Aaron

BEVERLY.

Appleton, Nathan D.
Appleton, Isaac
Avery, Mark B.
Baker, John I.
*Baker, Stephens
Bell, John
Bliss, Edgar J.
Burnham, O. B.
Carter, John W.
*Chase, Samuel
Clark, George
Connelley, Stephen
Cressy, Joseph
Danforth, E. F.
Dodge, Aaron
Dodge, Andrew
Dodge, Benjamin N.
Dodge, Benjamin S.
Dodge, Joshua S.
Dodge, Richard
Dodge, Forest C.
Dodge, Walter F.
*Dodge, William E.
Edwards, Ephraim A.
*Edwards, Israel O.
Foster, David L.
Foster, Henry W.
Foster, William A.
*Friend, Seth
Friend, Seth
Giles, Benjamin V.
Gould, Thomas
*Hathaway, John
Haven, Franklin
Herrick, Joseph H.
Hill, Hugh
*Larcom, David
Lee, Asa F.
*Lord, Abraham
Lord, Cyrus W.
Lawrence, C. A.
Loring, Augustus P.
Lovett, Francis S.
Lummus, E. E.
*Marshall, Timothy
Mason, Alfred A.
Mason, Alphonso
Mason, George
Mason, Lyman
Meacom, John,
Mitchell, John
Morse, John T.
Munsey, John G.
Paine, Charles C.
Phillips, John C.
Pitman, Mark
Porter, Adoniram
*Porter, John
*Porter, Robert
Raymond, John W.
*Sheldon, Jesse
Standley, Sam'l D. G.
*Scott, Benjamin
Stephens, Augustus
Trask, Joseph W.
Walker, Lawson
Waters, Richard P.
Waters, William C.
*Wilson, Joseph

BOXFORD.

Anderson, Charles R.
Andrew, Isaac W.
Barnes, B. Frank
Barnes, B. S.
Chadwick, Geo. W.
Cleveland, James P.
*Cleveland, Wm. N.
Cole, David M.
Cole, John K.
Cole, Warren M.
Cole, Wm. Kimball
*Curtis, Francis
*Day, John
Day, Isaac C.
Day, Mrs. John

BOXFORD (*Continued*).

*Day, Joshua T.
*Gould, Jacob
*Hale, Isaac
Hale, John
*Harriman, Daniel F.
Herrick, Israel
Killam, Oliver P.
Kimball, Samuel
Ladd, John I.
Nason, Jas. H.
†Palmer, Chas. Lane
Parkhurst, John
Pearl, Edw. E.
Pearl, John M.
Pearl, John
Perley, Charles
Sawyer, Thomas
*Wood. Enoch
Wood, John T.

BRADFORD.

Bradstreet, Justin E.
*Carlton, James T.
*Chadwick, Henry M.
Cogswell, Doane
Cogswell, George
Cogswell, William
Day, Albert J.
*Day, Hiram
*Day, Lafayette
Day, Royal
*Elliott, William
Ellis, John A.
Emerson, Charles B.
Gage, Edwin F.
Haseltine, Thomas
Hazeltine, Chas.
*Hazeltine, William
Hilton, William
*Holt, H. E.
Hopkinson, Sam'l W.
*Johnson, A. P.
Johnson, Charles G.
Johnson, Laburton
Kimball, Albert
Kimball, A. Laburton
*Kimball, David
*Kimball, Henry G.
Kimball, Leverett
*Kimball, Seth
*Kimball, Slyvester
Kimball, William B.
Kimball, W. Eustace
Kimball, M. Tenney
Knight Albert H.
Ladd, B. G.
Ladd, George W.
Little, M. P. Mrs.
*Locke, Oliver
†Merrill, John F.
O'Brien, John
Ordway, Alfred
*Ordway, Enoch F.
Ordway, G. W.
Ordway, Warren
Peabody, Frank
Peabody, Daniel
Perley, John
*Perry, Samuel B.
Phillips, G. Franklin
Poor, Chas. H.
*Sawyer, Samuel C.
Tewksbury, John B.
Thornton, William
Webster, Charles E.

DANVERS.

Abbott, L. L.
Allen, Henry C.
†Adams, Marshall C.
Bartlett, James A.
Berry, Allen A.
Berry, Eben G.
Batchelder, J. Q. A.
Bradstreet, Elijah
Blake, John A.
Brown, William H.
*Barnard, Willis
*Black, William
Boardman, I. P.
*Brown, Amos
*Brown, Charles W.
Butler, J. C.
Clark, N. J.
*Cummings, Sam'l P.
†Devereux, Geo, F.
Demsey, L. P.
Dodge, Elnathan
Dodge, Francis
*Dodge, William, Jr.
Eaton, Winslow W.

DANVERS (*Continued*).

Fellows, Alfred
Fisher, Franklin W.
Faxon, George
Fowler, Augustus
Fowler, Samuel P.
Fuller, Solomon
*French, George W.
Gaffny, Cornelius
Gould, Charles H.
Grosvenor, David A.
Grout, John
Gustin, John H.
†Holden, Seth
*Hyde, Elisha G.
Hill, Edward L.
*Ham, Elias
†Ham, Albert G.
Hood, R. B.
†Hatch, W. G.
†Hathaway, D. C.
Hood, Joseph E.
Hutchinson, Edward
Jacobs, Wm. A.
Johnson, George E.
Juul, Conrad
Kimball, Joel, Jr.
Kirby, Patrick
*Lane, Benjamin T.
Langley, J. R.
Lawrie, James
Learoyd, A. P.
Lefavour, Mrs.
Legro, Edmund
Legro, John C. P.
Lewis, Samuel W.
Lord, William
Massey, Dudley A.
*Massey, S. D.
Martin, George B.
Martin, Walter F.
McCrillis, Ransom F.
*Merrill, Ernest S.
Merrill, Levi
Merrill, Walter S.
Moulton, Beverly S.
Mudge, Edwin
Mudge, Augustus
†Murphy, Patrick
Nichols, Andrew
Nichols, Andrew, Jr.
Newhall, Benj. E.
Nourse, Samuel W.
O'Neal, T. H.
Page, Nathan, Jr.
Patch, Abraham
Peart, William B.
*Perley, A. P.
Perley, Dean A.
Perley, Edward P.
*Perley, Frederick
Perkins, Henry A.
Perkins, Warren G.
*Perry, James M.
Pettingill, David A.
Peabody, George H.
Pillsbury, H. H.
Pope, Ira P.
Porter, Benjamin F.
Pratt, Amos
Preston, Charles H.
Preston, Charles P.
*Preston, John
*Preston, John S.
*Preston, Samuel
Prince, Amos
Putnam, Ansel W.
Putnam, Charles O.
*Putnam Eben
Putnam, Edwin F.
*Putnam, Francis P.
*Putnam, F. W.
Putnam, Israel H.
Putnam, Joseph C.
Putnam, John A.
Putnam, Joel
Putnam, Moses W.
Putnam, Orrin
Putnam, Otis F.
*Putnam, Rufus
Pratt, George
Pratt, Samuel S.
Porter, John W.
Pope, Daniel P.
Proctor, Nathan P.
Richardson, James
Richards, Daniel
Richards, C. S.
Richards, George D.
Rollins, Jonas
*Ropes, Joseph W.
Rice, Charles B.
Sears, John A.
Silvester, Joshua
Spaulding, Sam'l W.
*Swan, Sylvanus B.
Swinerton, John
Smart, John L.
Swazey, E.
Spring, Jacob E.
*Tapley, Charles
Tapley, George
*Tapley, Gilbert
Tapley, Gilbert A.
*Tapley, Nathan
Trask, Alfred M.
*Tufts, Benjamin F.
Upton, Franklin W.
Verry, Augustus
*Waite, Peter
Walcott, Wm. H.

DANVERS (*Continued*).

Waldron, E. T.
Wallis, Samuel
Warren, Aaron W.
*Warren, Jonas
Weston, Wm. L.
Weston, Mrs. L. P.
White, Amos A.
White, Henry A.
*Wilkins, Joel
Woodis, Alden B.
Woodman, Edward E
Whipple, John F.
Wilkins, Fred'k A.

ESSEX.

Andrews, Elias
*Andrews, Elihu
Andrews, Joseph
Andrews, Miles S.
Burnham, D. Brainard
Burnam, Washington
Burnham, Wm. Howe
*Choate, David
Choate, Rufus
Cogswell, Chas. B.
Dodge, Grover
Haskell, David L.
Haskell, George
Knowlton, Aaron
Knowlton, David
Knowlton, Moses
Knowlton, Herbert A.
Knowlton, Perry B.
Lee, Edward K.
Low, Aaron
Low, Josiah
Lufkin, A. E.
McDonald, Daniel
Mears, Wm. H.
†Palmer, F. H.
Perkins, John
*Story, Andrew
*Story, Ephraim

GEORGETOWN.

*Adams, George E.
Bateman, A. P.
*Boynton, George W.
Butler, Oliver S.
Chapman, Jonathan
Dole, Moody S.
*Dole, Richmond
Harriman, Hiram N.
Hoyt, John A.
Hoyt, Martin L.
Huse, Ralph C.
Illsley, I. Adams
*Jewett, Jacob F.
*Jewett, Robert
*Lambert, Nathaniel
*Little, Samuel
Lovering, John H.
Marble, Nathaniel
Moulton, Daniel E.
*Nelson, Charles
Nelson, Sherman
*Nelson, Solomon
Nelson, William
Noyes, Henry P.
Osgood, Stephen
Pettingill, Henry
Pillsbury, J.
Poor, Samuel T.
Preston, John
Ridley, Amos
*Sanborn, George W.
Spofford, Sumner P.
Tenney, George J.
Tenney, Gorham D.
Tenney, Milton G.
Tenney, Moses
Tenney, Orlando B.
*Tenney, Richard
Wheeler, William S.
*Wildes, Green
*Wilson, Isaac

GLOUCESTER.

Atkinson, John
Babson, Daniel T.
Babson, Fitz J.
Babson, Horatio
Babson, John J.
Barrett, Charles P.
Bradford, George R.
Bray, Aaron W.
Brown, Edward H.
Burnham, A. M.
Burnham, H. A.
Burnham, S. A.
Butler, Benjamin F.
Calef, John C.
Campbell, C. H.
Carter, John S.
Carter, Sherman J.
Clark, John
Cole, Israel H.
Conant, Thomas
Cook, Benjamin F.
Corliss, Benjamin H.
Corliss, John
*Cressy, Curtis C.
Cronin, John
Curtis, Samuel, Jr.
Dale, Eben, Jr.
Davis, James
Davis, William P.
Dennin, George
Dennison, C. W.
Dodd, Stephen
Dolliver, John H.
Dolliver, William C.
Dolliver, William P.
*Dyer, J. Franklin
Fears, Robert
Fears, Robert R.
Ferguson, Thomas B.
Foster, Jeremiah
Friend, Elbridge G.
Garland, Joseph
Gilbert, Addison
Griffin, Bennett
Griswold, A.
Grover, Charles E.
Harvey, Alonzo F.
Haskell, H. C. L.
*Haskell, Thomas
Haskell, William H.
Herrick, Gardner W.
*Hough, Benjamin K.
*Hoyt, Edward C.
James, George
James, Samuel
Knowles, Thomas J.
Lane, Andrew
Lane, George
*Lancaster, T. S.
Lawrence, R. C.
*Lindberg, A. F.
Loring, Francis M.
Lovett, John H.
Low, David W.
*Low, Gorham P.
Marr, Chester, Jr.
Mayo, Israel C.
Mayo, Josiah, Jr.
Merchant, E. W.
Norwood, George
*Parsons, William, 2d
Parsons, W. Frank
Patch, Isaac
Pattillo, Alexander
*Pearce, Edward H.
*Perrin, Henry S.
*Perrin, William H.
Pew, William A.
Phillips, N. H.
Plummer, David
Presson, David S.
Price, Augustus E.
Proctor, Joseph O.
Proctor, Wilbur F.
Ricker, Richard W.
Roberts, Joshua
Rogers, Allen
Rogers, John S.
*Rogers, John S. E.
Rust, William P.
Sanford, H. G.
Sawyer, Samuel E.
Shepard, Joseph C.
*Smith, Benjamin H.
Somes, John E.
*Stacey, Eli F.
Stacey, John H.
Stanwood, Barnard
*Staten, Edward
*Stevens, Zachariah
Story, Cyrus
Thompson, Charles P.
*Tibbetts, Robert A.
*Todd, John
Webster, Nathaniel
Wetherell, M. L.
Wilson, John J.
Witham, Addison
Wonson, Augustus H.
Wonson, F. G.
Wonson, George M.
Wonson, J. W.

GROVELAND.

Atwood, Daniel
Atwood, Moses P.
Balch, Thomas H.
*Burbank, John
*Clark, Elijah
Curtis, Edwin T.
Fegan, Henry C.
George, Edwin B.
George, Samuel B.
Hardy, Ira
Harrington, Edward
Harriman, Moses H.
Harriman, Abel S.
Hopkinson, W. H.
*Kimball, Charles
Ladd, J. P. B.
Ladd, Nathaniel E.
Longfellow, N.
Longfellow, Samuel
Martin, Philip H.
*Ordway, Leverett S.
*Ordway, Moody
*Parker, Benjamin
Parker, Eldred S.
Peabody, Walter S.
Pemberton, L. K.
*Savary, Charles G.
Savary, Charles P.
Spofford, Henry H.
*Spofford, Jeremiah
*Spofford, Morris
Stacy, Edward M.
Stickney, Abel
*Stickney, Daniel H.
Stiles, Charles F.
Tenney, Geo. H.
Walker, George S.
Wardwell, Z. C.
Whitman, Wm. F.
*Woodman, Ira S.

HAMILTON.

Abbott, Joseph B.
Allen, Francis R.
*Brown, Jacob
Brown, William A.
Creamer, George G.
Dane, Ephraim A.
*Dane, Francis
*Dane, George
Dane, George E. F.
Dane, John, Jr.
Dane, Samuel
Dane, William A.
Dane, Sylvester
Dodge, Albert W.
*Dodge, Allen W.
Dodge, Emerson P.
Dodge, George B.
Dunnels, Ira A.
Ellis, George W.
Gibney, George H.
*Gregory, Samuel B.
Kimball, Isaac W.
Knowlton, Franklin
Knowlton, Isaac
Knowlton, Isaac F.
Knowlton, Joseph
Lamson, Jarvis
*Morgan, Luther S.
Norris, George
Norwood, C. J.
Patch, Mrs. Oliver
Porter, Dudley H.
Rankin, Eli C.
*Rankin, George C.
Robinson, E. P.
Safford, Daniel E.
Smith, Alvin
*Smith, John
*Whittredge, John
Whipple, Em. A.
Winslow, G. W.

HAVERHILL,

Berry, J. M.
*Bartlett, James A.
Bodwell, Stephen
Brickett, Barnard
Brickett, Daniel
*Brickett, Daniel H.
*Brickett, Franklin
Butters, Charles
Caldwell, William
*Carlton, John
*Carlton, Samuel
*Carlton, Nathaniel
Chase, Abel W.
Chase, C. W.
Cheever, H. W.
*Clark, William P.
†Coburn, A. M.
†Coffin, George

HAVERHILL (*Continued.*)

Cook, Justin T.
Corliss, Charles
Cummings, Henry
Currier, Samuel M.
*Cushman, R. P.
*Davis, George W.
Davis, James
Davis, Phineas E.
Dewhurst, James
*Dunbar, Charles H.
*Duncan, George W.
Eaton, B. F.
Eaton, Harrison
Elliott Samuel
Elliott, Samuel H.
Emerson, Albert
Emerson, E. A.
Emery, Benjamin E.
*Emery, M. G. J.
Farnsworth, J. H.
†Farrar, Joseph E.
Fellows, Samuel
Fellows, C. H.
Fitts, D. F.
Flanders, Daniel D.
†Fletcher, Edmund
*Frothingham, E. G.
Gale, John E.
Gale, James E.
Gage, Edmund
*Gardner, John
Goodwin, Rufus
*George, M. D.
*Gile, James F.
Gilman, John P.
Goodrich, T. J.
†Grieves, J.
*Hale, Samuel
*Harding, Thomas
*Harmon, David P.
Hanson M. W.
Haseltine, Amos, Jr.
*Haseltine, Hazen
Heath, Albert
*Holt, Charles
Hooke, Daniel
Howe, Moses
*Howe, Nathaniel S.
*Hoyt, George H.
*Hoyt, Humphrey
†Hunking, C. D.
Ingalls, E. T.
Jeffers, William
*Keeley, John
*Kittredge, Alfred
Lackey, Andrew
*Lee, George W.
†Little, Edmund B.
Little, J. G. S.
*Luce, M. O.
Marsh, John J.
Merrill, William
Mitchell, E.
Mitchell, Seth K.
Moody, H. L.
Morse, John H.
Morse, C. E.
Merrill, Giles
Nichols, James R.
†Nichols, John A.
Nichols, John B.
Nichols, J. B.
*Noyes, James.
*Noyes, Johnson
†Oberton, W. W. S.
Ordway, Joshua H.
*Patch, Paul D.
Peabody, Stephen
Peters, Daniel
*Plummer, Hiram
Poore, F. W.
Porter, Dudley
*Porter, Ebenezer
Randall, John P.
Richards, William B.
Richardson, John B.
Ridgeway, Joseph N.
Rhodes, C. N.
*Roberts, Stephen
*Robinson, Edwin
*Savary, Robert
†Sleeper, Sherburne C.
*Slocum, Rufus
*Smiley, James V.
*Smith, Jesse
*Saunders, A. C.
Saunders, Thomas
*Spiller, J. B.
Smith, George S.
Sprague, W. W.
Stewart, John
Swett, Jackson B.
Taylor, Levi
Taylor, Martin
Taylor, Oliver
Titcomb, Benaiah
*Thompkins, Christ'r
†Towle, Samuel K.
†Turner, James
Wadleigh, Levi C.
Wales, Herbert E.
*Webster, David
Webster, Ebenezer
Webster, E. F.
*Webster, Nathan
Webster, Richard
†Welch, Ezra B.
West, H. K.
West, James F.
West, Thomas
Wheeler, Allison
White, James D.
Whittier, Alvah
*Whittier, Leonard
Whittier, Warner R,
Winchell, James H.
*Wingate, Moses

IPSWICH.

*Andrews, David
*Andrews, Theodore
Appleton, Francis R.
*Appleton, B. D.
Appleton, Daniel F.
Baker, S. N., Jr.
Bond, James W.
*Bray, Frederick
*Brown, Aaron F.
Brown, S. Albert
Brown, John
*Brown, Manasseh
Brown, William G.
Caldwell, Abraham
Clark, Erastus
*Cogswell, Ebenezer
*Cogswell, William
Conant, Gilbert
*Dodge, Richard T.
Fall, Tristram B.
†Farley, Alfred M.
*Farley, Joseph
†Farley, Robert, Jr.
Fellows, Alonzo B.
Gould, John J.
*Grant, John
Grant, Joshua B.
Green, George H.
Haskell, George
Hobbs, John
Hodgdon, George
Hodgkins, Augustine
Horton, Joseph
Hunt, Samuel
Hurd, Y. G.
Jewett, Israel K.
Jordan, Robert, Mrs.
*Kimball, Charles
Kimball, Daniel
Kinsman, Joseph F.
Kinsman, William H.
Kinsman, Willard F.
†Locke, Calvin
*Low, Thomas
Marshall, Joseph
†Merrill, Ezekiel O.
*Mitchell, Frederick
Perkins, Isaac E. B.
Perley, David T.
*Potter, Asa T.
Rogers, Isaiah A.
Ross, Joseph
Rutherford, Aaron A.
Russell, Daniel S.
Shatswell, Nathaniel
Smith, Webster
Stone, Augustine
Story, Alden
*Tappan, Amos
Treadwell, William
Underhill, J. C.
Wade, Asa
†Wade, William F.
*Waite, Abraham D.
Whittier, Maynard
*Worcester, Ira

LAWRENCE.

Ames, M. B.
*Ambrose, Nathaniel
Bodwell, Asa M.
†Bryant, Oliver
Cabot, George D.
Currier, Eben B.
Currier, J. Merrill
*Decker, J. M.
Drew, J. D.
Durant, Adolphus
Durant, W. A.
Emery, Levi
Fiske, E. A.
Flynn, Edward
French, A. J.
Gile, W. F.
Gilman, Frederick
Goodwin, John
Goodwin Patrick
Goodwin, Francis J.
Halley, T. D.
Harmon, Nathan W.
Herrick, H. G.
*Herrick, James D.
Hills, George
Hood, Gilbert E.
*Howard, J. B. D.
Holt, Lewis G.
†Kimball, Josiah
†Kimball, Wm. M.
Keleher, W. A.
Lewis, S. T.
*Mallard, L. Mrs.
McAllister, J. G.
Merrill, George S.
Page, E. F.
Richardson, E. P.
Robinson, P. B.
Rollins, John R.

LAWRENCE (*Continued*).

Russell, George W.
Russell, W. A.
Saunders, Daniel
Shattuck, Charles
Small, Henry
*Stevens, William
Vietor, F. M.
*Warren, Albert
*Webster, Charles
Wright, W. H. P.

LYNN.

*Allen, Jacob A.
Baker, Ezra
Barker, John G.
Batchelder, John
Bates, Wallace
Beede, C. O.
Berry, Henry N.
Berry, Benj. J.
Breed, Henry A.
*Breed, Nehemiah Jr.
Breed, Richard
*Brown, Ira P.
Chase, L. H.
*Chase, Nathan D.
*Chamberlain, Wm. D.
†Coggeshall, J. H.
*Collins, Ezra
Cross, Alfred
Cressey, John S.
Davis, Edward S.
Emery, George E.
*Fay, William P.
Farrar, Jos. E.
Foster, George
Fry, Charles E.
Goodell, J. W.
Graves, Samuel
Harris, N. S.
Hawkes, Nathan M.
*Healey, Mark
Hill, E. L.
Hovey, Rufus P.
*Keene, George W.
Kimball, Rufus
King, W. P.
Marsh, George E.
Marsh, S. E.
Merrill, Samuel A.
Merrill, E. H.
*Merritt, Charles
Merritt, Timothy
Mudge, John
Neal, Peter M.
Newhall, Asa T.
Newhall, G. A.
Newhall, Hiram L.
Newhall, George T.
Nichols, Otis
Nichols, Thos. P.
Norris, George, Jr.
Noyes, Geo. C.
*Nye, James M.
Oliver, John E.
*Osborn, William
†Osborn, William H.
Parsons, Charles E.
Pevear, G. K.
Pevear, H. A.
Potter, Edward P.
Preble, J. H.
*Rankin, John D.
Rhodes, Jacob
Roney, Simon J.
*Saunderson, Jos. N.
Sargent, George D.
Shorey, John L.
Shorey, George L.
Spinney, William N.
Sawyer, J. A. J.
Tyler, Thaddeus W.
Usher, Roland G.
Whippen, H. C.
†Wyman, Isaac
Winslow, Aaron

LYNNFIELD.

Bancroft, J. K.
Brown, Joseph
*Danforth, John
Danforth, John M.
*Emerson, D. P.
*Emerson, Hubbard
Hawkes, George L.
Herrick, George E.
Mansfield, Andrew
Newhall, Frank
*Newhall, Josiah
Perkins, John
Perkins, John H.
*Richardson, Chas.
Roundy, W. R.
Smith, Henry E.
†Smith, Joseph
†Symonds, George W.

MARBLEHEAD.

Alley, Amos P.
Alley, James E.
Alley, Reuben
*Alley, Franklin
Appleton, Thomas
†Childs, Addison
Childs, Caleb
Cloutman, B. Henry
Cronin, Michael
Dennis, W. John
Gregory, J. J. H.
Hathaway, Amos C.
Hathaway, Joseph B.
Hathaway, Seth W.
†Millett, Joseph
Nutting, John
*Paine, Thomas T.
Paine, Thomas W.
Phillips, Wm. S., Jr.
*Robinson, Frederick
*Stone, John
Ware, Benjamin P.
Ware, Horace
*Ware, Robert C.
*Winslow, Henry B.
*Wyman, Israel
*Wyman, Luke

MANCHESTER.

Allen, Luther
Allen, Wm. H.
Burnham, Frederick
†Chase, Joseph S.
Cheever, John H.
Cheever, William M.
Coolidge, T. Jefferson
*Fields, James T.
*Fitz, William F.
Friend, Daniel W.
*Gentlee, Thomas P.
Hildreth, John D.
Jewett, Alfred W.
*Knight, Henry
*Knight, John, Jr.
Lee, Allen
*Lee, John
Price, John
Rabardy, Julius F.
*Smith, A. W.
Sturgis, Russell, Jr.
*Tappan, Benjamin
*Tappan, Ebenezer
*Tappan, Israel F.
*Tappan, Lewis N.

METHUEN.

*Barker, Stephen
*Bowker, J. B.
Bradley, George B.
*Bradley, Leverett
Bradley, Frank J.
Buswell, Joseph E.
Butters, W. H.
*Butters, Geo. W.
Currier, Daniel
Crosby, John S.
*Davis, John
*Dow, Lorenzo
Dow, Virgil
Emerson, Jacob, Jr.
Frederick, John W.
Gage, Geo. W.
Gutterson, B. J.
Goss, Chas. E.
*Herrick, Fred St. C.
†Hicok, S. S.
*How, Christopher
How, Joseph
How, Joseph S.
*Ingalls, Chas.
*Ingalls, Joseph F.
*Low, John
Mann, C. W.
Morrison, D. T.
Morse, Jonathan
*Nevins, David
Nevins, Henry C.
Noyes, David W.
Patterson, D. H.
Pedlar, S. J.
Phippen, G. S.
Parker, Jas. O.
*Rollins, Amos C.
*Russ, John
Sargent, S. C.
Sleeper, Wm. C.
Thurlow, J. E.
Tozier, C. L.
†Welch, John

MERRIMAC.

Chase, William
Clement, M. G.
England, John J.
Haskell, Wm. H.
Hill, A. C.
Loud, L. C.
Nichols, Chas. H.
Sargent, Elmer P.
Sargent, M. Perry
Sargent, Bailey
Sargent, Geo. W.
Sargent, P. Willis
Sawyer, Thomas C.
Tewksbury, D. M.

MIDDLETON.

*Berry, Jonathan
Berry, William
Carlton, O. Loring
Carleton, Wm. B.
Christopher, William
Currier, George A.
Flint, James
Hutchinson, J. A.
Phelps, William A.
Stiles, David
Stiles, Farnham
Stiles, Farnham, Mrs.
Stiles, Hiram A.
Stewart, Mrs. S. A.
Wellman, John R.
Wilkins, Lyman

NAHANT.

Goodale, Byron

NEWBURYPORT.

Adams, Philip D.
Adams, J. Quincy
Adams, Rufus
*Akerman, John
Akerman, Joseph
*Ashby, William
Balch, John H.
Ballou, C. N.
Bartlett, T. K.
Batchelder, Daniel C.
*Battell, Elbridge
Boardman, Isaac H.
*Brewster, Wm. H.
Bricher, William
*Brown, David F.
*Canney, Hiram
Cashman, Jeremiah
Capers, Thomas
*Coffin, Frederick J.
Colby, George J. L.
Colby, George W.
*Colman, Daniel T.
Colman, James C.
Colman, William T.
*Cushing, Caleb
Cutter, Eben P.
*Davis, Benjamin
Delano, Otis
*Dyer, J. R.
*French, Curtis
*Gale, Stephen M.
*George, George
Griffin, Eliphalet
*Hale, Isaac, Jr.
Hale, Joshua
*Hale, Josiah L.
Hamlet, Daniel
Hart, James S.
*Horton, Daniel
Huff, William
Huse, William H.
Ireland, Charles H.
Jackman, George W.
*Johnson, William P.
*Kelley, E. G.

NEWBURYPORT (*Continued.*)

Kent, Otis L.
Knight, Joseph
Little, Hector
Little, John G.
*Little, Moses S.
Lunt, Charles
*Lunt, Micajah
*Marston, Stephen W.
Merrill, Enoch
*Merrill, Samuel, Jr.
Morrison, Daniel T.
*Morse, James M.
*Morse, Joseph B.
Moseley, Edward A.
Moseley, Edward S.
Moseley, Fred'k S.
Moulton, Henry W.
Moulton, Joseph
Nelson, David O., Jr.
Newhall, Asa T.
*Newhall, Joshua L.
Northend, E. T.
Noyes, William, Jr.
Ordway, A. D.
Ordway, Parsons
*Page, John T.
*Pearson, J. P.
Perley, R. M.
*Pettingell, Moses
Perkins, Chas. L.
Plummer, Moses A.
Plummer, Wm. C.
*Remick, John E.
*Robinson, J. D.
*Shoof, Henry
Smith, David
*Smith, Edmund
Smith, Joseph B.
Smith, Eunice L.
Smith, Robert A.
Stanley, B. F.
Stanley, J. C.
†Stearns, Edwin
*Stone, Jacob
Sumner, John
Thurlow, William
Titcomb, Albert
Tilton, Enoch
*Tozer, Hiram
Titcomb, Paul
Toppan, Edward S.
*Williams, Robert
Winkley, J. Otis
Winkley, Paul T.
Winkley, Paul T., Jr.
*Wood, David
Young, Hiram

NEWBURY.

Adams, Charles
Adams, Charles W.
*Adams, John C.
Adams, George W.
*Adams, John J.
Allen, John W.
Bray, Richard S.
Bray, George W.
Boynton, Charles
*Caldwell, David S.
Colman, Moses,
Dole, Nathaniel
Goodrich, Wm. F.
Howard, Horatio M.
Illsley, Paul M.
Illsley, Joseph
Jaques, Richard
Jaques, Richard T.
Jaques, William
Jones, William
Kent, John N.
*Kent, Joshua N.
Knight, J. B.
Kent, Edward
*Langley, William C.
Little, E. C.
Little, E. F.
*Little, Edward H.
Little, Joseph
Little, Nathaniel, Jr.
*Little, Silas
Little, Stephen W.
*Little, Tristram,
Little, William,
Longfellow, H. F.
Longfellow, J.
Longfellow, J. Mrs.
Lucy, Gideon R.
Lunt, Charles M.
*Lunt, J. Austin
*Lunt, Joseph
Moody, N. W.
Mann, Otis
Newman, Sidney F.
Noyes, Justin,
Noyes, H. P.
Noyes, James
Noyes, Luther
Noyes, Moses K.
Perkins, W. W.
Perkins, Frank,
Plummer, Daniel, Jr.
Plummer, G. H.
*Plummer, Greenleaf
*Poole, B. P. Mrs.
Randall, G. A.
Rogers, Abial
Rolfe, Joseph N.
Tenney, H. L.
Tenney, Daniel G.
Woods, C. W.

NORTH ANDOVER.

Adams, Edward
†Appleton, S. F.
Bailey, Charles P.
*Berry, Jacob
Berry, Albert
Blake, J. P.
Bodwell, S. B.
Butterfield, Charles A.
Bassett, Levi H.
Barker, John
Carlton, Daniel
Carlton, Daniel A.
*Carlton, Joseph
Crosby, Josiah
Chever, William J.
Davis, George G.
Davis, George E.
Davis, George L.
Dale, William J.
Dale, William J., Jr.
Farnham, B. H.
Farnham, Byron K.
Farnham, Mrs. B. H.
Farnham, Jacob
Farnham, J. L.
Farnham, J. Ralph,
Farnham, W. Benj.
Foster, J. Frank
Foster, John P.
*Foster, J. Prescott
*Foster, William
†Foster, Samuel
Foster, Orrin
*French, George
French, J. D. W.
Fuller, Abijah P.
*Gage, John C.
Goodhue, Hiram P.
*Green, Arthur M.
*Gardner, D. F.
Greene, E. W.
Goodwin, John O.
*Hill, Samuel B.
Holt, Peter, Jr.
†Jaquith, Chris'r P.
Jenkins, Benjamin F.
Jenkins, Milon S.
*Johnson, Theron
Johnson, James T.
Johnson, Charles F.
*Kittredge, Joseph
Kittredge, Hannah E.
Kimball, John F.
Loring, George B., Jr.
Manion, John
Montgomery, Jas. A.
Nason, James
Osgood, Isaac F.
Peters, Nathaniel
*Peters, William
†Phelps, W. W.
Poor, James C.
*Poore, Matthew
Rea, Loring P.
Reynolds, James H.
Riley, Henry
†Slade, Jarvis
*Spaulding, Amos
Stevens, Moses T.
Stevens, Oliver
*Shattuck, Thomas C.
Sutton, Eben
Symonds, Frederick
†Wardwell, Orrin
*Weed, Dan
Wilson, Abiel
*Wiel, Louis
Wardwell, T. O.
Wiley, John A.

PEABODY.

*Abbott, Alfred A.
Allen, Lewis
Appleton, Francis H.
*Ayer, Hazen
Bancroft, Sidney C.
Barrett, E. P.
Buxton, Henry V.
Brown, Rufus H.
Brown, Lewis
Bushby, N. A.
Bodge, Horatio
Bodge, Henry
*Blake, Walter F.
Brown, W. H.
*Basford, P. R.
Batchelder, Mal'hi F.
Blaney, Stephen
Buxton, Daniel, Jr.
*Buxton, Joshua
Buxton, Robert G.
Carroll, Thomas
Clark, A. B.
*Clement, John B.
Colcord, J. L.
*Cook, Henry
Cummings, Daniel
Curtis, Andrew
*Davis, Mark
Dole, William T.
Durkee, T. C.
Emerton, C. S.
*Fairfield, Joseph
Farwell, Edwin C.
Foster, Ira
Foster, George M.

PEABODY (*Continued*).

Gardner, Henry
Goodale, Jacob O.
Goodale, J. P.
†Gunnison, Elisha
Hardy, Isaac
Hills, Benjamin M.
†Hoyt, Joseph
Herrick, John E.
*Hubbard, John L.
Hubbard, A. J.
*Huntington, Benj
Hutchinson, Samuel
Hutchinson, C. H.
Jacobs, Edward W.
*King, Amos
*King, Eben
*King, Henry A.
King, J. Augustus
King, James P.
King, Jonathan
King, Perley
Linehan, John
Little, William H.
†Low, Caleb
Marsh, Fred
Mansfield E.
Mansfield, Arthur W.
Marsh, Frank
Marsh, James
*Marsh, John
*Marsh, Philip
*Merrill, Wingate
*Messer, F. B.
Needham, George A.
Needham, Joseph S.
Newhall, Orlando F.
*Osborn, Philip L.
Osborne, Abraham C.
Osborne, David
Osborn, Lyman
O'Keefe, Timothy
*Osborne, Kendall
*Osgood, Joseph
Pepper, George W.
*Pierson, A. L.
Preston, Levi
*Poole, Fitch
*Poor, Eben S.
*Poor, Henry
Potter, William
*Preston, Moses
*Proctor, Abel
*Proctor, John W.
*Proctor, Thorndike
Richardson, W. B.
Rogers, Jacob C.
Saltonstall, Henry
*Sanger, Abner
*Sawyer, Asa
*Shackley, Moses A.
Southwick, Sumner
*Stevens, John V.
*Sutton, William
Swett, Samuel
Taylor, George W.
Thomas, Josiah B.
Twiss, Everett M.
*Upton, Eben S.
*Upton, Stephen
Viles, Bowman
Walcott, John G.
Wallace, David B.
Walton, George D.
Ward, Winsor M.
*Wheeler, Benjamin
Wheeler, Benj. S.

ROCKPORT.

Blatchford, Eben
Estes, Alden C.
*Haskell, Benjamin
Hodgkins, John B.
Lane, Andrew
Lane, Andrew, Jr.
Lowe, Mrs. Martha J.
Lowe, William
Mills, R. P.
Manning, James
Manning, John J.
Manning, William N.
Marshall, John W.
Norwood, Gorham
Patch, William H.
*Pool, Ebenezer
*Rowe, Ebenezer
*Rowe, Jabez
*Smith, Allen
Smith, Allen, Jr.
Smith, Beman C.
*Smith, David
York, Nath'l S.

ROWLEY.

Bartlett, B. W.
Blodgette, George B.
Dole, Charles
Dodge, Joseph D.
Dummer, Nath'l N.
*Foss, Joshua
Hale, Clara A.
*Hale, Daniel J.
Hale Joseph
Hale, Thomas
Hale, T. P.
Haggarty, D. L.
Lambert, Mary G.
Mighill, Charles P.
*Payson, Moses P.
Pike, John
Prime, Daniel B.
Potter, Edward H.
*Proctor, George
Stockbridge, Seth
*Todd, Daniel G.
Todd, John F.
Todd, Frank P.
Tenny, Harrison J.
Todd, J. Scott

SALEM.

Andrews, Randal
Andrews, Samuel P.
Almy, James F.
Abbott, Nathaniel
Barton, Gardner
*Barton, William C.
*Bowdoin, Williard L.
*Brookhouse, Robert
Bermingham, M.
Curwen, James B.
Chamberlain, James
*Chase, Stephen A.
Curwen, Samuel H.
Cooper, C. A.
Clark, Charles S.
Chase, William
Collins, William
*Cressy, Josiah P.
*Cross. John D.
Daland, John
Endicott, William C.
Endicott, William P.
Felt, John
*Fellows, Israel
*Ferguson, Joseph B.
Foote, Caleb
Foster, Joseph C.
Foster, William H.
Foster, William J.
*Fiske, Joseph E.
Goodhue, William P.
Gray, Benjamin A.
Gibney, John
Gardner, D. B.
Hathaway, John
*Huntington, Asahel
Hale, Henry
Hale Henry A.
Horton. N. A.
*Ives, John M.
Ives, John S.
*Ives, William
Jones, Samuel G.
Jackson, Eben
*Kimball, James
Kinsman, John
Kemble, Arthur
*Lee, John C.
Lamson, Frederick
Loring, George B.
Lander, William A.
Lyford, Francis W.
Mack, William
*Maloon, William
Manning, Robert
Merritt, David
Messervey, Wm. S.
*Metcalf, Benjamin G.
*Milton, T. Payson
Morse, Ebenezer H.
Newhall, Benjamin S.
Newcomb, Caleb
†Nichols, George, Jr.
Northend, William D.
*Noyes, E. K.
Oliver, H. K.
Oliver, Samuel C.
*O'Shea, M.
Peabody, John P.
*Peirson, Edward B.
Perkins, E. R.
*Perkins, J. C.
Putnam, Henry W.
Phillips, Willard P.
Phippen, George D.
*Pickering, John
Potter, Daniel
*Proctor, William
Pulsifer, Joseph
Pingree, David
Pettingill, George
Pickering, Wm. Jr.
Page, John G.
Piekering, Benjamin

SALEM (*Continued*).

*Roberts, William
†Robinson, J. A.
Robinson, John
Ropes, Charles A.
Rogers, A. D.
*Rogers, George W.
*Rogers, Richard S.
*Russell, John L.
*Reynolds, Moses C.
Reynolds, Henry E.
Rowell, E. F.
Ropes, John C.
Saunders, Robert J.
*Saunders, William
Smith, Andrew
*Smith, Caleb
Shreve, O. B.
Spencer, Charles P.
Swasey, John A.
*Stimpson, James C.
*Story, Augustus
Stowe, Volney C.
Streeter, Gilbert L.
*Ware, Horace
Ware, Horace C.
Wheatland, Henry
*Winkley, Enoch
†Wyman, Rufus
White, Frank
Waters, David P.
Tracy, Patrick

SAUGUS.

Blodgett, J. W.
Faxon, M. B.
George, Henry M.
*Hatch, Anthony
Houghton, T. O. W.
Hawkes, Samuel
Hawkes, Louis P.
Newhall, Herbert B.
Newhall, Joseph
Noble, William
Penney, George H.
Robinson, E. P.
*Sweetser, George H
Whitehead, Joseph

SALISBURY.

*Ayer, James H. B.
Bartlett, Moses J.
*Clark, Thomas J.
*Currier, Jacob
*Colby, J. Harlow
Chesley, John F.
Currier, W. H. B.
Dole, Edward G.
Dow, George A.
Evans, John Q.
*French, Moses
Felch, Elbridge S.
Gale, Foster
*Gale, Josiah B.
Gilman, S. E.
Lane, T. W.
†Pendergast, J. F.
*Pray, Rufus
Smith, John F.
Tibbetts, Wm. B.
True, Eben
Greenleaf, Wm. H.

SWAMPSCOTT.

Crosman, S. F.
Holden, Philander
*Mudge, E. R.
*Palmer, John P.
Pettingill, L. D.
Pettingill, S. J.
*Phillips, J. F.
*Pitman, Samuel C.
Rowe, Allen
Stetson, Charles A.
Washburn, John
Warren, David
Warren, Mrs. N. J.

TOPSFIELD.

*Adams, B. P.
*Balch, Abraham
*Batchelder, Ezra
Billings, Augustus T.
Bradstreet, Dudley
*Clark, David
*Cleveland, John
*Elliott, Israel D.
*Emerson, T. M. P.
*Gould, Ariel H.
Averill, George F.
Herrick, Charles
Hood, S. D.
*Hubbard, William
Lamson, J. Arthur
Leach, Thomas K.
Manning, James
*Munday, William
*Merriam, Sidney A.
Merriam, Arthur M.
Peabody, Charles J.
Pike, Baxter P.
*Perkins, Moses B.
Pierce, T. W.
Poole, Benjamin
*Rea, John, Jr.
Stanwood, Joseph E.
Towne, Frank H.
Ward, Richard
Wildes, Moses
Wilson, James
Woodbury, Isaac M.

WENHAM.

Alley, Henry
*Batchelder, Joseph
Cole, Zachariah
Dodge, Richard F.
*Dodge, Andrew
*Dodge, Ezra
*Dodge, George A.
Dodge, George F.
*Dodge, Rufus A.
Dodge, William P.
Edwards, Francis R.
Gould, Amos
*Hadley, Franklin
Hobbs, A. F.
Hobbs, Henry
Kavanagh, J.
Morgan, William B.
Pingree, David
Peabody, George W.
Parsons, George W.
Patch, Henry
*Pingree, Wm. G.
*Porter, William
Perkins, Nathaniel P.
Tilton, George H.
*Waters, Robert H.
Whitman, F. A.

WEST NEWBURY.

Bailey, William P.
Bradley, C. S.
*Bailey, Uriah
Boynton, Eben M.
Brown, Hayden
Bartlett, M. Walsh
Bailey, Lawrence H.
*Brown, Osgood
Brown, Robert L.
*Carr, George W.
*Carr, James
Carr, E. Dole
*Carr, Moses
Carr, Samuel
Chase, Samuel S.
Follansbee, B. A.
Flook, George L.
Goodridge, David L.
Goodridge, H. M.
*Goodridge, Joseph
*Goodwin, Thomas C.
*Gordon, Joseph Z.
Gordon, J. R.
Gowen, Francis H.
Gowen, Oscar
*Gowen, Ezekiel
*Griffin, B. F. S.
*Hosam, George
Jacques, Romulus
King, T J.
*Little, Edmund
Little, Otis
Lane, Isaac N.
Merrill, Elbridge
Merrill, William
Merrill, William E.
Merrill, M. B.
Merrill, Henry
*Moody, Samuel, Jr.

WEST NEWBURY (*Continued.*)

Moore, Alfred L.
*Mosely, Charles C.
*Moulton, Daniel
Maguire, C. N.
Nason, Ezekiel G.
Nason, Henry F.
Nelson, Daniel P.
*Newell, Joseph
Newell, Richard
*Noyes, Anson W.
Noyes, Stephen E.
Ordway Cyrus K.
*Ordway, George N.
Ordway, Cyrus D.
Ordway, Thomas G.
*Ordway, Hanson
Ordway, Charles W.
*Pillsbury, Daniel
Poore, Moses H.
Poore, Amos
Poore, Ben: Perley
Poore, George H.
Pierce, George G.
Ridgway, M. Moses
*Ridgway, Sarah L.
*Rogers, Charles
Rogers, Calvin
Rogers, George C.
*Rogers, Hiram
*Smith, Amos
*Smith, David
*Smith, James
Smith, Moses
Stanwood, Moses P.
*Thurlow, George
*Thurlow, Stephen C.
Thurlow, Thomas C.
Titcomb, Silas M.

NON-RESIDENTS.

Burnham, Ira T., Lexington
Babson, Gustavus Jr., Seward, Neb.
Beckford, C. H., Boston
Balch, William H., Malden
Balch, Eustis, California
Bodwell, Henry A., Keene, N. H.
Black, James D., Harvard
Blunt, J. Milton, Springfield, Ms.
Bodwell, Jos. R., Hallowell, Me.
Brackett, H. Clarke, Virginia
Brocklebank, S., Rumney, N. H.
Burnham, Choate, Boston
Clarke, Joseph F., Boston
Currier, William A., Boston
Chapin, W. C., Providence, R I.
*Cleaveland, N., Jersey City, N. J.
Cleaveland, H. W. S., Chicago
Colby, Charles A., New York
Chase, Joseph S., Malden
Carey, James, Quincy
Caldwell, L., Jacksonville, Fla.
*Currier, Warren, N. Y. City
Carey, James, New York
Day, Abraham, Boston
Dole, Francis F., Chicopee
Dodge, John S., Chicopee
Drew, Charles R., Medford
Eaton, Thomas, Harristown, Ill
Emanuel, Henry, New York
Felton, Wm. H., Sherborn, Mass.
Flint, Charles L., Boston
Fowler, W. W., Plymouth
Fernald, Henry B., Washington
Foster, James B., Melrose
Flagg, Wilson, Cambridge
*Flint, Thomas, Boston
Flint, Horace P., Boston
French Charles, Davenport, O.
French, George H., Davenport, O.
Gannett, W. W., Boston
Gookin, Samuel F., Boston
Green, John A., New York
Hadley, William, Boston
Hale, Joseph S., California
Hayes, J. F. C., Iowa
Hill, Moses, Revere
Hill, Mark F., Derry, N. H.
Holt, Joseph S., New York City
Hubbard, J. G., Hampstead, N. H.

NON-RESIDENTS (*Continued.*)

Hutchinson, C. H., Rhinebeck
Hubbard, Leavitt, Turner's Falls
Hicock, S. S., Rochester, N. H.
Kent, Albert S., Colorado
Kimball, Jonathan, Boston
Kimball, W. F., Providence, R. I.
King, D. Webster, Boston
Knight, J. M., Maine
*Knight, S. Leverett, Clinton, Ia.
Lamb, Wm. D., Southbridge
Lyford, George H., New York
Lake, Charles H., Churchill, Md.
Low, Sidney, Groton
*Maynard, Lambert, Boston
McFarland, L., Maine
Mitchell, Charles, Milton
Merrill, Hayden A., Dedham
Nichols, Albert, Chicago
Nichols, D. P., Boston
Noyes, A. P., Lowell
Ordway, G. W., Manchester, N.H.
*Parker, James M, Boston
Putnam, Benjamin C., Chelsea
Pierce, Wm., Charlestown, Mass.
*Payson, T. E., Providence, R. I.
Page, Adino, Metamora, Ill.
*Porter, Wm. F., Cambridge
Poor, Henry, New York City
*Porter, O., Norridgewock, Me.
Payson, Samuel F., New York
Patch, Ash'l H., Clarkville, Tenn.
Putnam, Wm. R., Red Wing, M.
Phelps, N. L., Iowa
Phillips, Samuel, Brighton
Phillips, A. P., Medfield
Quimby, T. W., Washington, Mo.
Raymond, Samuel, N. Y. City
Reynolds, W. B., Derry, N. H.
Robinson, John L., Manchester, N. H.
Ridgway, M. M. Jr., Atkinson N. H.
Rogers, Benjamin, Malden
Rogers, William, Illinois
Stone, Edwin M., Providence, R.I.
Snow, Jesse W., Boston
Sargent, G. P., Philadelphia
Stickney, Niles T., Chicago
Stanley, Samuel S., Charlestown
Safford, N. T., Dunbarton, N. H.
Smith, George J., Boston
Stickney, Chas., Fon du Lac, Wis.
Sleeper, S. C., Plaistow, N. H.
Shattuck, L. P., Boston
Spofford, Farnham, Washington
Titcomb, Charles A., Boston
Taylor, George H., Everett
Tappan, S. B., Arlington, Mass.
Wentzel, David, Amherst
Whittemore, Charles A., Boston
Ware, Darwin E., Boston
Whittemore, J. R., Chicopee
Wheeler H. T., Worcester
Webb, Michael Jr., Cambridge
Walker, Dexter M., Boston
Wilder, S. W., Lowell

APPENDIX.

THE EXHIBITION IN THE HALL.

BY DAVID W. LOW, SUPERINTENDENT.

I would respectfully report, that the exhibition of the Society for 1884, in quantity, quality and arrangement was better than at any previous exhibit known to your superintendent. Although at previous ones there have been larger and better exhibits of some special kind or class of exhibit, yet as a whole, it may be classed among the best, if not the best of all; which was largely due, first, to the generous contributions of the best of almost everything asked for, which came from all over the county. Second, to the excellent form of the hall, by which, every class of exhibit could be seen from any stand-point, forming a picture pleasing to the sight. Third, to the energetic and able assistance rendered by those who received, entered and arranged the exhibits, and those who also delivered them. No better evidence of their faithfulness can be found, than the fact, that so large an exhibit was received by the Hall Committee and other voluntary help and arranged so promptly, that the hall was thrown open to visitors half an hour before the advertised time and the exhibits, almost everything, delivered promptly and safely the day after the close of the Fair. Nothing broken, nothing missing, which faithfulness entitles them to the hearty thanks of myself, which is here tendered to them, not forgetting Capt. George M. Whipple's services as secretary, in addition.

Of the exhibits, the "Floral Department," was placed under the especial charge of Mr. John Robinson of the "Essex Institute," and the whole of the large stage of the "Rink," was placed at his disposal. How well he, with

his assistants, performed their duties, the retrospective sight and other senses yet carry them in fragrant remembrance.

The "Farmers' Table," around the centre-post of the hall, was given a place by the kindness of Almy, Bigelow & Webber, who, after that space had been assigned to them, learning that it was desired by the Society for a special exhibit, generously tendered it back, with the table which they had provided.

The arrangement of this table with its decorations was a new feature and designed to show all the cereals and all the (uncooked), dressed meats of the county, garnished with appropriate fruits, vegetables, etc. To the interest in the matter taken by George H. Averill of Salem, the success, with such short notice, of the meat exhibit was largely due. He procured the beef, lamb and veal from Wm. P. Gould of Topsfield, who, when asked where suitable beef could be procured, exclaimed "That decides it," and went home and killed a "Fat Ox" that he was going to exhibit for the premium and which he would have received without doubt, as the "premium ox" did not dress as well afterwards. The "Roasting Pig," was from the Salem Poor Farm, the chickens from James Looney of Marblehead, the ducks and geese from George M. Wonson of Gloucester, and the squabs from Jerry Todd of Salem. Of the Cereals used, William Little of Newbury furnished a generous supply of rye, wheat and corn on the stock, and also rye and wheat in the grain, as did also others of oats in sheafs and grain. President Ware contributed sorgum, ensilage corn and vegetables, and the Danvers Asylum Farm, grains on stock, and vegetables, all fine and attractive.

One obstacle in the showing of cereals to the extent that is required to make it as it should be, one of the features of our exhibitions, is the lack of inducements offered for such exhibits. I would, therefore, respectfully recommend to the Society, that premiums be offered for the best peck

of shelled field corn, wheat, rye, barley, oats, buckwheat, and such kinds of clover and grass seed as the Society deem best to encourage the cultivation of. I would also recommend a committee of awards composed mostly of millers and grain dealers.

I would also recommend to the Society, wherever it is possible to offer "premiums" instead of "gratuities," as there is much in a name, reducing the amount for gratuities to correspond. Take "Articles manufactured from Leather," for instance, having no premium list, offer premiums for best hand made and machine made boots for men, for women, for children, taking material, style and workmanship into consideration. I think, should it be done, a boot and shoe county like this, would not at its county fair, lack of an exhibit of one of its most important manufactures as it did this year. The kind of harness for premiums could be mentioned, and the remaining amount, given in gratuities as merited.

Whilst in the line of recommending, I would suggest that a blank, or printed form of report for use by all committees. Copies to be placed in each committee book, when handed the chairman, something in this style.

ESSEX COUNTY MASS.
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To the Secretary of the Essex Agricultural Society,

SIR:—

The Committee on———have attended to their duty, and respectfully report to the Society that they have made the following awards, viz:—

(To be filled out and handed to Secretary as soon as awards are made.)

AMOUNT AWARDED.				FOR WHAT AWARDED.	TO WOHM AWARDED.	RESIDENCE.
First Premium.	Second Premium.	Third Premium.	Gratuities			

The "Trade Exhibits," added not a little to the exhibition by their tasteful arrangement, and all, not otherwise mentioned in special awards for Essex County manufactures, richly deserved and received "Honorable Mention." The exhibit of silk weaving, under Mr. Almy's auspices, was a novel and very attractive feature of the Fair, and carries my thoughts back to the records of fifty years ago, when silk culture created such excitement in Essex County, and had such liberal premiums offered for it by this Society.

In the exhibition were 1,458 entries in the various departments, from thirty-two towns and cities, every town and city, with the exception of Lynnfield, Nahant and Salisbury, being represented in one or more department, showing, I think, an interest that is manifested by no other county agricultural society in the Commonwealth. The

following tablated statement shows the number of entries in each department.

Respectfully submitted,

DAVID W. LOW, *Supt. of Hall.*

Statement showing the entries in each department of the exhibition of the Essex Agricultural Society, held in the "Rink" at Salem "Willows," in 1884.

Kind of Exhibits.	Number of Entries.	Number of Exhibitors.	From Different Towns and Cities.
Apples—(Collections, 25 plates),	2	2	2
Apples,	157	73	17
Pears,	270	97	14
Peaches,	10	10	3
Grapes—(Collection, 12 varieties from Methuen),	1	1	1
Cold House Grapes,	3	2	2
Grapes,	42	23	9
Assorted Fruits,	19	13	8
Vegetables—(Collections about 230 lots),	3	3	3
Vegetables,	300	60	21
Native Flowers,	8	8	6
Flowers and Pot Plants,	94	50	11
Dried Apples—(from Methuen),	1	1	1
Preserves,	4	3	2
Honey—(from Lynn),	1	1	1
Cake—(from Salem),	1	1	1
Bread,	21	20	9
Butter,	5	5	5
Amount carried forward,	942	373	116

Amount brought forward,	942	373	116
Lard,	1	1	1
Counterpanes and Rugs,	135	*90	*14
Fancy Work and Works of Art,	327	184	17
Work by children,	16	15	6
Articles of Leather,	13	6	3
Manufactures and General Mdse.,	24	21	3
Total,	1458	690	160

*Over that number, as the name and residence of last eleven exhibitors were not entered by entry clerk.

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TRANSACTIONS

FOR THE YEAR 1885,

OF THE

ESSEX AGRICULTURAL SOCIETY,

(ORGANIZED, 1818.)

FOR THE

COUNTY OF ESSEX,

IN MASSACHUSETTS.

WITH THE

Sixty-third Annual Address,

—BY—

THOMAS SANDERS,

OF HAVERHILL.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.:
OBSERVER BOOK AND JOB PRINT.
1885.

ADDRESS.

Mr. President, Fellow Members of the Essex Agricultural Society, Ladies and Gentlemen:—It is the practice of orators in addressing Agricultural Societies to congratulate them upon the glorious success of the exhibition, the magnificent show which greets them on every side, unparalleled in the annals of the Society and perhaps unequalled by any other society.

This is all very well when it happens to be true, but with all due respect to the worthy and talented gentlemen who have had the honor and privilege of addressing you, I must say that had this statement been true every time it has been uttered, a state of perfection would by this time have been reached in Cattle Shows. It is much easier to say a pleasant thing than an unpleasant one, and you no doubt go home feeling better satisfied with yourselves and with all mankind when you have been told that you have attained the highest eminence that can be attained in the noblest calling of man. It is therefore with considerable reluctance that I touch a different keynote.

In another respect, I propose to depart from the example set by my predecessors, i. e., in omitting to state that "I do not presume to instruct the farmers of this county in their business." You, Mr. President and Trustees of this Society, could only have chosen me to deliver this address because you knew that my education and experience ren-

dered my advice and counsel of value to farmers. You certainly will all discover that I was not chosen because of oratorical powers. My only excuse for being here is that I know something about our calling, having practised it for many years.

I know and love every inch of old Essex county, and I know something of its people and their needs, having had long, personal acquaintance with many, and being bound by ties of blood to some of its oldest and best farmers. Born and bred here, with an instinctive love of the soil which nothing can eradicate, my first longings were for the life of a farmer, and that, with the world before me, and especially the tempting fields of the West, I was allowed to choose in New England, I am profoundly grateful I do not propose to enlarge upon my personal experience as a farmer except so far as may be necessary to enforce the lesson I desire to teach.

I have travelled this summer on almost every road and lane in this dear old county, and I have done the same thing almost every year for thirty years or more, and while I notice much improvement in many sections, I regret to say that I see a great deal that saddens me. I do not see enough young men on the farms, and I see some farms from which the old people have been carried to their graves, left deserted, the house a prey to the destroying elements, the barn crushed by winter snows.

This is a sad picture in a flourishing, thriving county. It seems not unnatural where, in some almost howling wilderness, far from all centres of civilization, as some portions of our neighboring states are, one section in par-

ticular I have driven through this summer of which the Indian name signified "God forgotten;" I say that in localities like these, where nothing but the indomitable pluck of our ancestors secured a settlement, a deserted farm house accords well enough with the landscape, and one is not disposed to call to account the deserters. But a deserted farm house here in Essex County is an unnatural sight, and is brought about by a state of things for which you, brother farmers, many of you, are directly responsible.

You do not give the boys encouragement enough to stay at home and carry on the farm. The drudgery of farming is not attractive, nor is the drudgery of any other business, but in farming the boy sees nothing to balance the drudgery if he follows the monotonous routine of the average Essex County farm. He finds it stocked with an uninteresting herd of milch cows, which you have picked up from traders and propose to turn to butchers when dry. After a summer of toil to provide subsistence for these cows, he has nothing, so far as the farm is concerned, to look forward to but the care of them during the winter.

Although there is profit even in this sort of farming shrewdly conducted, and profit is the ultimate inducement in every business, yet the smallness of our farms renders it impracticable in most instances to pursue this course on a sufficiently large scale to make the profit alluring. How can you expect your boy to take much interest in it? He sees little done for the improvement of the farm, nothing done for the improvement of the breed of animals on it, no interesting process to conduct or to watch. Passing his whole minority thus, can you wonder that he avails himself

of his freedom, on attaining majority, to place as great a distance between himself and the farm as possible? This in many cases is all the encouragement the boy gets to adopt a farmer's life.

Of course, in this enlightened age, few boys are deprived of a common school education, but so far as fitting and encouraging him to be a farmer, this is all that is done. This is not because you do not love your boy and desire with your whole heart that he shall stay with you, but because you do not realize how uninteresting this life must be for him. You have your farm to manage, you are independent, can do as you please, buy, sell, and have the satisfaction of adding a little to your store every year, even by this slow process. Why not, without revolutionizing your business, make it more interesting and at the same time more profitable? If you are making butter, why not instead of buying a lot of Brighton cows, buy a few good Jerseys or Guernseys, double the amount of butter made at less than double the outlay, and lay the foundation for a herd, the surplus of which can be sold at high prices and prove a sure and handsome remuneration? Or, if you are making and selling milk, there are Holsteins and Ayrshires within your reach, from the breeding of which similar results will be obtained.

What can be more interesting for boy or man than to watch the growth and development of fine young animals? I imagine some hard-headed farmer whose mind has run so long in grooves that it cannot get out of them, saying, "That is all very well for men who have money enough, but we poor farmers can't afford to buy such animals." I

am not proposing anything that the poorest farmer who can buy two good cows cannot do. For the price of two good cows with no pedigree, and therefore unable to transmit their good qualities, he can buy one pure bred cow that will breed with enough certainty to insure a good price for the offspring, and return at the same time a good income in milk.

I know a man in this county, who, in 1880, bought eight Jersey cows and heifers, for $100 each, and bred them to the best young Jersey bull he could buy for $100. These cows were of a good family of butter makers, have all been tested, and, although some were old and all were suffering from want of care, the lowest record for one week, on pasture, was 9 lbs. 11 oz., and the highest, 12 lbs. 2 oz. Until last year the increase of this herd, male and female, sold for an average of ninety-five dollars and eighty-three cents a head, ($95.83). In 1883, the owner paid $200 for each cow for the services of the best bull that could be found in the country, and sold such calves as he could spare of both sexes, last year, for $375 each. Those that he kept could not be bought for twice that sum, which they would readily bring at auction, and he has laid the foundation for a herd of immense value.

If it is argued that this takes ready money which the farmer just starting does not always have at command. There is another way, adopted by one of the best dairy farmers in Vermont. He took 40 young, registered Jersey cows from the owner of a large herd, which cows he is to pay for in calves, 4 heifer calves, 4 months old, for each cow. He told me that he had never made so much butter in his

life, and that the bull calves (which belonged to him) he had sold for more money than he ever got for all the calves raised in one year before.

"Where there is a will there is a way," and those gentlemen whose intelligence and liberality have prompted them to invest in large and valuable herds, furnish the way in this instance. I mention Jerseys because I happen to be more familiar with that family in this locality; the same thing can be done with any other family of recognized superiority and well established breed.

Essex County is well adapted for stock raising, as some of its most enterprising and successful farmers have proved. Land, except in the immediate vicinity of large towns, is as cheap as the same kind of land almost anywhere in New England. I own a farm in Maine and another in Vermont, 5 and 15 miles respectively from a railroad. I cannot buy pasture land in the vicinity of either of them, as cheap as I have bought in this county. Yet we have to go outside of this county to find many of those men who, by persistent devotion to the breeding of some one class of good stock, have made brilliant successes. There are many of them in other parts of New England, where the advantages are in no respect greater than Essex County gives, whose progress I have watched with great interest. The history of their labors and achievements would be instructive, but I will only cite the results in a few instances. One man having finished his labors, leaving an enduring monument, the finest breed of animals of their kind in the world, I must mention by name:

Forty years ago, Mr. Edwin Hammond of Middlebury,

Vermont, bought from a Mr. Atwood of Connecticut, a flock of pure bred Spanish Merino sheep, shearing about five pounds per head of fine wool. They were somewhat delicate, bad-shaped, with little or no wool on faces, legs or bellies, but possessing a lineage which rendered them capable of transmitting a fine fleece, which constituted their chief value. Recognizing the defects in his sheep, and having ever before him "in his mind's eye" the standard he wished to attain, Mr. Hammond by careful and judicious selection of the best animals, and by persistent and intelligent in-breeding, founded a breed of sheep, which will yield fifteen pounds of fine wool per head, and the beauty of whose forms cannot be excelled, of strong constitutions and good habits, faces, legs and bellies covered with a wealth of fine wool. The production of this superior breed of sheep known as the American Merino, has added millions of dollars to the wealth of the world, for they have spread wherever fine wooled sheep are bred, enabled the founder to amass a fortune, doubled the value of the farms in his county, quadrupled the wealth of the county, and given it an impetus which all the recent years of dull wool markets have been unable wholly to check. It took Mr. Hammond nearly twenty years to accomplish this thing, and the talent which he brought to bear upon the work, amounted almost, if not quite, to genius. Many young men, however, have followed in his footsteps, have kept up the purity and excellence of this breed, and in no case in which they have intelligently and judiciously done so, have they failed to reap their reward.

I recollect an instance which will illustrate the point I

desire to make in regard to encouraging the boys to stay on the farm.

One of my neighbors in Vermont, who kept nothing but an inferior herd of cows and a few poor sheep, complained to me one day about twenty years ago, that his boy wanted to go to the city, and as he seemed determined to go he asked me if I could find him a place. I asked him why he did not keep him on the farm. "Well," said he, "that's what I want to do, but he doesn't think it a very good way to get rich." In the course of conversation I found that the boy took a great fancy to sheep, and I suggested to the father that he should let him serve an apprenticeship to some good Merino breeder, and that he should after that buy him a good flock of pure bred sheep. He followed my advice and to-day this boy is one of the most successful breeders in Vermont, is known wherever Merino sheep penetrate, and, notwithstanding that the wool market has been on the decline almost ever since, he has secured an ample competence, and has had as interesting an experience as one could wish, spite of discouragements.

Among the many beneficial results attained by the New England Agricultural Society, nothing is so apparent to me who have been intimately connected with it since its formation, as the impetus and encouragement which it has given to the improvement of our animals. As a direct result of generous competition at one of its earliest Fairs, a young man just starting a herd of Short Horns, instead of berating the judges, when he lost the first premium, had the good sense to see wherein he failed, and to-day stands as perhaps the foremost Short Horn breeder in New England, and is worth $200,000 which he has made in the business.

I could point to many instances where the raising of horses has been a source of considerable profit to the breeders, and I suppose the majority of farmers in some counties of Maine, if they kept accurate accounts, would find that they have derived more profit from the sale of colts than from any other one thing. Why not let the boy raise a colt? I may raise a storm about my ears for making such a suggestion to a Society that has been so recently, and so often congratulated upon its purity from all taint of horse flesh, except before a plow or a market wagon. Why, I repeat, should not the boy have the pleasure that will surely result, and the profit that may result, from breeding a good colt from a good mare and a good horse? I suppose for fear that he may trot some day in 2.10, and bring ruin and disgrace upon the whole family by being sold for $20,000. Now, while I do not advocate horse-racing as a branch of this Society's exhibition, I see no reason why a proper place should not be afforded in which to show the gait of a horse, and I fail to see the sin in encouraging driving faster than a three minute gait.

I have just returned from a visit to the State of Maine, during which I attended the Fair of the New England Agricultural Society, at Bangor, and where I met you, Mr. President, and many other officers and members of this Society whom I see here to-day, and you will no doubt, corroborate my statement that a majority of the horse-breeders who exhibited the best animals at that Fair, than which better were seldom seen together, were honorable, straightforward men, as jealous of their reputation as are those in any other profession and as thoroughly to be relied

upon. The dishonest breeder of any animal "goes to the wall" inevitably. Honor is the very essence of his business. A man is no longer classed as a breeder whose word cannot be implicitly relied upon.

The argument that has been heretofore urged against the breeding of horses is the demoralizing effect that it may have upon a young man, and the disreputable associates that it brings about him. Whatever force this may have had, before so much attention was paid to horse breeding by some of the best men among us, to-day it will not hold. It is only by leaving it in dishonest hands that a business becomes disreputable. When such men as I have spoken of engage in this work they elevate its character. Bad men will exist everywhere, but there is absolutely no place for them among successful breeders of animals, whether horses, cows, sheep, pigs, hens or dogs.

It has become a dangerous thing to-day for a man to exaggerate the merits of his horse in his advertisement, if he desires to establish a reputation as a trustworthy breeder. When I told one of the best breeders in Maine that a certain horse he had not seen, could not be recognized from his owner's description of him, he said "I thought his advertisement read like that of a quack."

The progress of civilization has abolished the horse-jockey, if by horse jockey is meant the man who lives by cheating in horses, or at any rate has relegated him to the same position as the man who cheats at cards or swindles in any other occupation, and the poor horse is in no way responsible for his practices, except that his nature and characteristics so nearly approach the human, that he easily becomes his unwitting accomplice.

You have heard of the minister who, when remonstrated with by his deacons for introducing into the choir, music which they fancied had a secular flavor, replied that "he didn't propose to let the devil monopolize all the good tunes." In the same way, brother farmers, I exhort you not to let the jockeys monopolize all the good horses, but let the boys breed the best colts they can from the best mares and the best horses you can get hold of. I do not advise devoting the farm to this purpose, because it is an undeniable fact that horses do not transmit their qualities with that certainty that pigs and cows do, and there is no such thing as an established breed of horses adapted to our purposes, but I do advocate the breeding of all kinds of stock that thrive in our locality, from the best sources and from no others.

I advocate this, because we cannot compete with the West in raising grain or beef or pork, nor with the South in raising early vegetables and fruits. We cannot afford to impoverish our farms by selling anything that grows on them, except in those favored localities, where a close proximity to large towns renders it profitable to raise and sell vegetables and fruits for which there is a demand, because of their superior quality and flavor to the imported articles. Here too, from city stables, without too great an expense, can be drawn the sustenance for all plant life. That this is done and done successfully is the chief pride of Essex county, and the shows of vegetables and fruits at our Fairs are not surpassed anywhere. Essex County has maintained her lead in this department since I can remember. All honor to those who have had the sagacity and the industry to accomplish such results.

As you, Mr. President, have recently stated, "fully one-half the improved varieties of vegetables in the market to-day had their origin in this county which places her in the front rank in this field, and had the same attention been paid to raising improved breeds of animals the results would have been equally gratifying. For the same influences of soil and climate which give this flavor and firmness to our fruits and vegetables, impart a strength and vigor, a fineness of quality, and a hardiness of constitution to all animals bred here where pains have been taken to select the proper seed.

We all know that the larger vegetable growths of the West are attained at the expense of quality. Our experienced seedsmen would scarcely recognize in these monstrosities the descendents in the third or fourth generation from seed they themselves have furnished. So an old breeder of Vermont horses would hardly recognize to-day in a car load of coarse western horses, the descendents from the fine old Morgan horse, such a change has been wrought in other climes and on other soils, in a few removes from the parent stock.

A Texas sheep breeder familiar with thoroughbred Merinos bred in his state, than which he had thought nothing could be better, and who was inclined to look with scorn upon our smaller sheep, was perfectly astonished upon a closer examination to find how much finer the quality of a New England Merino was.

Notwithstanding the universal distribution of the Jerseys in every state in the Union, it is those bred in New England, New York and Canada that bear the palm of excel-

lence. The noble Short Horn thrives everywhere that food enough is furnished him, and although on our pastures he cannot compare in size with his Kentucky cousins, ranchmen seek him here, to improve their herds, because of his greater hardiness. The proper development of some stock, notably coarse-wooled mutton sheep, may require a more generous diet and a milder climate, yet it is an unquestionable fact that some of the choicest animals that ever lived have been produced here.

We should have here as fine a show in the pens as we have the halls. Essex county, as I have before remarked is in many respects well adapted to stock raising, and the practice, which has been so generally adopted, of storing in Silos green crops which can easily be raised in large quantities, smooths the way immensely. For five years I have fed ensilage with uniformly good results and on a farm of 160 acres, (120 of which is in pasture and woodland) which barely kept 8 cows in 1879–80, I wintered last year 25 cows, 10 horses, and 25 sheep.

The last census shows that notwithstanding the general increase in population in Massachusetts, this increase has been in the large manufacturing towns, the purely farming districts having hardly held their own, some of the more remote parts even showing a decrease. This is not encouraging from an agricultural standpoint, it does not seem healthy or right from any point. If any words of mine can influence one man "to stand by the old ship," or secure one recruit, I shall feel that I have not spoken in vain.

Not every man can be a farmer. A man with no mechanical genius or taste can by persistent hard labor

attain moderate success in any manufacturing business, but if a man has no eye for the form, or insight into the character of an animal, he can never become a successful breeder. But I have seldom seen a Yankee boy brought up on a farm that lacked these qualities, and it is for him that I am talking. That the same environment which gives excellence to to the lower animals affects also the human family, the history of the great and good men who have originated in New England attests.

A great work has been done by this society in educating farmers and in inspiring them with an enthusiasm for their calling, a still greater is to be accomplished. Our Agricultural colleges have not served the purposes for which they were founded. Any special education is too narrow to properly equip a man as a first rate farmer. Our best Universities, founded on broad and liberal principles, and not limited in their scope, confer no knowledge that is thrown away upon a farmer. Let a man's early educa tion however, be what it may, nothing so helps him in his practical work as a farmer as the opportunity afforded him by our Agricultural Societies for coming in contact and in competition with his fellow workers. The great work before us is to stimulate to the utmost this competition.

The plan adopted by the founders of this society and rigidly adhered to since, of holding our Fairs in different parts of the county, is one, the wisdom of which cannot be questioned, keeping alive, as it does, the interest of every section. But it is an undoubted fact that many of the best animals in the county are seldom seen at our shows. To devise

scheme that shall bring out the best that we have, and encourage us to do better still, devolves upon you, Mr. President, and the other officers of this Society. I have no doubt that the wisdom which has enabled you so to conduct the affairs of this society, as to make it the most flourishing in the state, and its meetings the most enjoyable I ever attend, is adequate to meet the demands of the future.

THE SERVICES OF CHARLES P. PRESTON, ESQ.

THE RETIRING SECRETARY.

The committee to whom was referred the following resolution, unanimously adopted by the Essex Agricultural Society on the retirement of Charles P. Preston, Esq. from the office of Secretary, viz.:

Resolved, That in the retirement of Charles P. Preston, Esq., from the office of Secretary of the Essex Agricultural Society, this Association loses the services of a most faithful and capable officer, who for a quarter of a century has discharged his duty in a most exemplary manner, and now carries into his private life the esteem and respect of all his fellow-members and official associates, and their best wishes for his health, happiness, and prosperity—

Respectfully report:

The long service of Charles P. Preston, Esq. as Secretary of the Essex Agricultural Society, deserves more at our hands than a mere passing notice. Twenty-five years ago he entered upon the duties of his office, and during all that period he has labored most faithfully for the interests of this association. The example set him by his predecessors was not an easy one to follow. The office had been filled by some of the most honored and capable citizens of this county. In the beginning, as far back as 1818, when the first meeting was held to consider the advantages of a society to promote the interest of agriculture in this county, the Hon. David Cummins, a sound and careful lawyer, a highly respected citizen, a pure minded judge and a profound lover of the soil on which he was born, took charge of the records, and gave the benefit of his excellent advice. He was followed by that sturdy and manly son of Essex, the Hon. John W. Proctor, the agricultural oracle, the devoted friend of the farmer, who, for twenty years, labored for the interests of the society. Mr. Proc-

tor's successor was one of the purest minded, the wisest, and most cultivated scholar and statesman that Essex County has ever produced. The Hon. Daniel P. King was a student in his retired and somewhat secluded home in Danvers; a patient, judicious and influential legislator, a dignified presiding officer in both branches of the General Court, a most patriotic and fearless member of Congress—a public servant whom the people trusted, and whose untimely death deprived this Commonwealth of an opportunity to bestow upon him her highest honors, and cut short a career of most exemplary and useful distinction. And upon the retirement of Mr. King, the Hon. Allen W. Dodge entered upon his long official connection with the Society, as Secretary for twenty-two years, and for three years as President. Mr. Dodge's zeal and devotion were not easy to follow. He commenced life as a devoted student, a brilliant lawyer in the city of New York, a lover of literature in every form, and when he left the spirited life which his faculties secured for him as scholar and lawyer, he brought to his farm to which he retired as a working farmer, all the enthusiasm he had exercised in another sphere. He was a painstaking, practical farmer, and in the midst of all his labor on the land, and in those offices to which his fellow citizens were ready to elevate him, he never forgot his books nor relinquished his fondness for keen criticism of the writers of his day. His enthusiasm at our annual meetings, will not be forgotten by those who knew him, and the skill with which he discharged the duties of his office will be manifest as long as the records of this society are preserved. It was such a list of Secretaries as this, in which Mr. Preston's name was enrolled in 1860 and in which it remained to 1885. During this period he has been associated with a large number of the farmers of the county, who, as members, Presidents, Vice Presidents, Trustees and active workers have secured for the Essex Agricultural Society its prosperity and its good name. The

work of a Secretary of an association like this is by no means easy. The numerous details are liable to bewilder, the constant demands require great patience and good nature, the decisions upon the publications of the transactions, all these demand judgment and watchfulness and impartiality and industry and readiness. All these, Mr. Preston had. His work was well done in the preliminary arrangements for the annual exhibition, in the conduct of the fair, and in the publication of our proceedings in annual reports which have secured a high reputation in the agricultural literature of this Commonwealth.

The period during which Mr. Preston served the society as Secretary was an important one in the history of farming in this county. He saw the young men of the county suddenly called into action on a field plowed by the cannon and laid waste by the scourge of war. He saw the associate industries increase and multiply on every hand, and the radical changes in agricultural economy which a growing and industrious community gathered around populous and busy towns will create. He saw the whole purpose of agriculture materially changed. He saw the great progress made in all the application of machinery to the work of the farm. And he saw the devotion of all those who believe in agriculture, to the work of scientific investigation and education for its benefit. And at all times he was ready to recognize the wants and necessities of the active and changing years.

The resolution which has been so unanimously adopted but expresses the views of your committee on the work of this valuable servant. And in recording this estimate of his services, expression is given to the unanimous voice of the Society.

Geo. B. Loring—*Chairman.*
O. S. Butler,
Francis H. Appleton.

SIXTY-FIFTH

ANNUAL CATTLE SHOW AND FAIR.

The Cattle Show and Fair of this Society was held on the 22d and 23d day of September, 1885, in Newburyport.

The *free* exhibition of Stock, Poultry, Agricultural Tools, Carriages, etc., in pens and tents on the "Mall" near the Court House, was a very creditable one in most of its features, especially so in horses. The show of Poultry was not such a large one as ought to be expected in Essex County, and the show of carriages was very slim.

The exhibition in the Prospect Street Rink was quite large and compared favorably in quality with previous exhibitions of the Society. The weather on the second day was so unfavorable as to greatly decrease the attendance both to the Show Grounds and the Exhibition Hall, thereby, at the latter place, causing decreased receipts from admissions and diminishing its financial success.

On the second day, the annual address was given by Thomas Sanders, Esq., of Haverhill, in the Pleasant street church, afterwards the annual dinner was served in City Hall, after which President Ware, Judge Staples, Hon. George B. Loring, Major Ben: Perley Poore and others made short speeches.

The entries in the several departments of the Fair were as follows :—

STOCK, ETC., ON FREE SHOW GROUNDS.

Fat Cattle,	5	entries.
Bulls,	11	"
Milch Cows,	2	"
Herd of Milch Cows,	1	"
Heifers, First Class,	11	"
Heifers, Second Class,	24	"
Heifer Calves, Second Class,	3	"
Working Oxen and Steers,	13	"

Steers,	4	entries.
Steer Calves,	2	"
Town Teams,	3	"
Breeding Mares,	24	"
Stallions,	9	"
Family Horses,	12	"
Farm and Draft Horses,	13	"
Pairs of Draft Horses,	9	"
Colts, First Class,	11	"
Colts, Second Class,	20	"
Swine, First Class,	10	"
Swine, Second Class,	7	"
Sheep,	6	"
Poultry, First Class,	11	"
Poultry, Second Class,	23	"
Ploughing,	27	"
Agricultural Implements, etc.,	10	"
Carriages,	4	"
Total,	275	"

IN EXHIBITION HALL.

Dairy,	8	entries.
Bread, Honey and Canned Fruits,	35	"
Pears,	328	"
Apples,	367	"
Peaches, Grapes and Assorted Fruits,	92	"
Flowers.	132	"
Vegetables and Seed (325 lots)	256	"
Counterpanes, Carpets and Rugs,	186	"
Articles manufactured from Leather,	6	"
Manufactures and General Mdse.,	16	"
Fancy Work and Works of Art,	210	"
Work of children, under 12 years,	33	"
Total,	1669	"

Grand total, 1944 entries.

DAVID W. LOW, *Sec'y.*

REPORTS OF COMMITTEES.

FAT CATTLE.

The Committee on Fat Cattle have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$10. First premium to S. & N. Longfellow, Groveland, for pair oxen 5 years old, weight 3590 pounds.

$8. Second premium to R. T. Jacques, Newbury, for pair oxen 7 years old, weight 4230 pounds.

$4. Third premium, to Jas. Ferguson, West Newbury, for pair oxen 5 years old, weight 3000 pounds.

Wm. H. Greenleaf, James P. Cleaveland, Richard S. Newell.—*Committee.*

STATEMENT OF S. & N. LONGFELLOW.

GROVELAND, Sept. 22, 1885.

The oxen we enter for your consideration were five years old last May, are Grade Durhams, weight 3590 pounds. Their feed from March 1st, 1885, to June 1, 1885, was 4 quarts of meal each per day and poor hay. Their feed from June 1st to Sept. 22d, was pasture ; no grain of any kind. We have owned them four years and their work has been ordinary farm work. They have done all the work on the farm since three years of age.

Cost of keeping from March 1 to Sept. 22, 1885,	$45.00
Value of their work,	30.00

S. & N. LONGFELLOW.

STATEMENT OF R. T. JAQUES.

I enter one pair Fat Oxen, seven years old, weighing

4230 pounds. I have owned them two years, have worked them all the time until June 1st, 1885, when they were put out to pasture; from Jan. 1st, 1885, they were fed on low meadow salt hay and four quarts of meal apiece for two months, and for the last two weeks I have given them six quarts of meal apiece.

Respectfully,

R. T. JAQUES.

STATEMENT OF JAMES FERGUSON.

The pair of Oxen entered by me for the premium offered for Fat Cattle, have been owned by me since the 15th of May. They are grade Durhams, are five years old; were fed on two quarts of corn meal every night for two months before they were entered for exhibition. They also had all the good corn fodder they could eat and had not any hay.

JAMES FERGUSON.

BULLS.

The Committee on Bulls have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First Premium, to Thomas Sanders, Haverhill, for best Jersey, 2 years and over.

$5. Second Premium, to Harry H. Hale, Bradford, for best Jersey, 2 years and over.

$5. First Premium, to Harry H. Hale, Bradford, for best Jersey, under 2 years.

$3. Second Premium, to Otis Mann, Byfield, for best Jersey, under 2 years.

$10. First Premium, to Harry H. Hale, Bradford, for best Guernsey, over 2 years.

$2. First Premium, to D. A. Massey, Danvers, for best Ayshire bull calf.

Best Thorough bred Bull, with five of his stock not less than one year old, the committee award to D. A. Massey of Danvers, the Premium $12, for Ayrshire " Brown Mars."

Peter D. Smith, P. T. Winkley, John Barker.—*Committee.*

STATEMENT OF D. A. MASSEY, OF DANVERS.

Thorough bred Ayrshire and recorded in A. B. A. R.

Bull " Brown Mars,"	dropped March 1, '80.
Bull " Brown Mars, Jr."	dropped July 22, '85.
Heifer " Crocus 3rd,"	dropped July 1, '82.
Heifer " Mars Wills,"	dropped June 26, '83.
Heifer " Mars Dora 2d,"	dropped July 20, '84.
Heifer " Crocus 4th,"	dropped Sept. 15, '84.
Heifer " Maybelle 2d,"	dropped Sept. 18, '84.

I enter Brown Mars with the above 5 of his get.

D. A. Massey.

MILCH COWS.

The Committee on Milch Cows have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$10. First Premium, to T. N. Cook, Newburyport, for yellow and white Jersey.

$4. Second Premium, to T. N. Cook, Newburyport, for brown and white Jersey.

Sherman Nelson, James P. King, Joseph D. Dodge, John Swinerton, George B. Dodge.—*Committee.*

STATEMENT OF T. N. COOK.

I enter for award, one yellow and white Jersey Cow, 8½

years old; has been owned by me 2 years. Calved Sept. 4, 1884, due to calve again Oct. 10, 1885. Pasture feed with 4 quarts of meal and 3 quarts of shorts per day. Made from her milk the first week of June, 1885, 14¼ lbs. of butter; the second week, 13½ lbs.

Also, a brown and white Jersey Cow, 8½ years old. Calved December, 1884; farrow. June grass feed, with 2 quarts of meal and 2 quarts of shorts; morning and evening, wet feed. Made from her milk the first week of June, 1885, 13½ lbs. of butter.

T. N. Cook.

HERD OF MILCH COWS.

The Committee on Herd of Milch Cows have attended to their duty, and respectfully report to the Secretary that they have made the following award:—

$12. Second premium, to Jerry Cashman, Newburyport, for herd of 5 Milch Cows.

E. Francis Holt, Moses J. Bartlett, Moses A. Plummer, Samuel B. George, Asa T. Newhall.—*Committee.*

STATEMENT OF JERE. CASHMAN.

Newburyport, Sept. 22, 1885.

Gentlemen of the Committee on Herds of Milch Cows:

The average yield of milk for the months of April and May, 1885, was 48 quarts per day from the herd I enter for premium, there being only four in milk in those months. The average yield of milk for the months of June, July, August and September, up to date, 63 quarts, there being 5 cows in milk.

"Clover," the old cow, calved March 25, 1885. Due to calve again, March 20, 1886.

"Pinkie," the next oldest, calved March 23, 1885. Due to calve again March 29, 1886.

"Polly," calved March 31, 1885. Due to calve again April 20, 1886.

"Kitty" calved March 31, 1885. Due to calve again May 1, 1886.

"Nellie," calved May 25, 1885. Due to calve again June 3, 1886.

The manner of keeping as follows:—During the months of April and May the cows were fed on English Hay three times a day and grain once a day, it being two quarts of meal and four quarts of shorts. In the months of June, July, August and September, fed on grass in pasture and three quarts of shorts every evening.

JERE. CASHMAN.

HEIFERS FIRST CLASS.

The Committee on Heifers, first class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

AYRSHIRES.

$10, First premium, to D. A. Massey, Danvers, for best Heifer in Milk, "Crocus 3d."

$4. First premium, to D. A. Massey, Danvers, for best two year old, "Marswells."

$4 First premium, to D. A. Massey, Danvers, best one year old, "Crocus 4th."

$2. Second premium, to D. A. Massey, Danvers, 2d best one year old.

JERSEYS.

$4. First premium to J. P. Gardner, Hamilton, for one year old, "Flora Lisgan."

$2 .Second premium to J. P. Gardner, Hamilton, for one year old, "Rioter's Blossom."

There was but one Jersey Heifer in milk entered for premium, and your Committee were of opinion that she was unworthy.

Joseph Hale, A. A. Rutherford, Andrew Lane, Jr.— *Committee.*

HEIFERS—SECOND CLASS.

The Committee on 2d Class Heifers (Native or Grade) have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to James Noyes, Newbury, for under four years in milk.

One year old and upward.

$4. First premium, to Paul T. Winkley, Newburyport.

$2. Second premium, to Richard Newell, West Newbury,

$4. First premium, to Silas M. Titcomb, West Newbury, for Calf under one year old.

$2. Second premium, to Chas. W. Adams, Newbury, for Calf under one year old.

T. G. Ordway, H. C. Ware, C. H. Nichols.— *Committee.*

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to William P. Christopher, Middleton, for Working Oxen.

$10. Second premium, to Thomas G. Ordway, West Newbury, for Working Oxen.

$8. Third premium, to Lyman Wilkins, Danvers, for Working Oxen.

Charles P. Mighill, Justin E. Bradstreet, Allen Smith, James Noyes.— *Committee.*

TOWN TEAMS.

The Committee on Town Teams have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$20. First premium, to West Newbury, for Ox Team, 10 yoke.

$12. Second premium, to Newbury, for Ox Team.

The West Newbury team was carefully examined and considered as fine as any exhibited for several years. Newbury exhibited a fair team, one pair of 13 months old steers were considered as extra good.

E. G. Dole, N. Longfellow, William B. Tibbetts.—*Committee.*

STEERS.

The Committee on Steers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$6. First premium, to William P. Christopher, Middleton, for one pair two year old.

$5. First premium, to James Noyes, Newbury, for yearling steers.

$4. Second premium, to Jonas M. Rollins, Danvers, for yearling steers.

$4. First premium, to W. W. Perkins, Newbury, for four months Steer calves, short horns.

T. K. Bartlett, R. S. Bray, H. M. Goodrich.—*Committee.*

STALLIONS.

The Committee on Stallions have attended to their duty and respectfully report to the Secretary that they have made the following awards:

For four years old and upwards:

$10. First premium to Harry Hale, Bradford.

$6. Second premium, to J. J. Downing, Andover.

$4. Third premium, to Edward Donahue, Newburyport.

For three years old Stallions:

$8. First premium to C. C. Hewitt, Newburyport.

$5. Second premium, to J. P. Gardner, Hamilton.

B. W. Bartlett, S. K. Johnson, John Parkhurst.—*Committee.*

BROOD MARES.

The Committee on Brood Mares have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Edward Hale, Haverhill, for Mare and Foal.

$6. Second premium, to J. N. Rolfe, Newbury, Mare and Foal.

$4. Third premium, to Edwin Bates, Lynn, for Mare and Foal.

There being twenty-one entries made and most of which was first class stock and there being but three premiums, it was hard for the committee to decide which they belonged to. But acting on the best of their judgment they awarded them to the above parties. The committee were all of the opinion that there being so large an amount of entries of this class of stock that there should be more premiums.

JERE. CASHMAN, *Chairman.*

FAMILY HORSES.

The Committee on Family Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to S. P. Hale, Newbury, for Family Horse.

$6. Second premium to T. K. Bartlett, Newburyport, for family horse.

$4. Third premium to H. H. Hale, Bradford.

There were twelve entries of very fine family horses; so perfect were they that your committee found it rather hard to decide upon their merits as such, still we think our decision was made without favor or prejudice.

W. P. Bailey, J. F. Chesley, Peter Holt, Jr.—*Committee.*

GENTLEMEN'S DRIVING HORSES.

The Committee on Gentlemen's Driving Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$6. Second premium, to S. F. Newman, Newbury, for Driving horse.

$4. Third premium to H. H. Hale, Bradford, for Driving horse.

Your committee would say in closing this report that the reason why they did not award the first premium to either horse was that they did not come up to the committee's ideal of a gentleman's driving horse. Mr. H. P. Noyes of Georgetown showed us a very nice family horse, but as he had not owned it but a few weeks he was excluded by the rules of the Society. Mr. H. R. Perkins showed us a most excellent family horse, one of the best that we saw on the grounds, but his driving qualities were not up to the standard for a gentleman's driving horse. This horse ought to have been in the class of family horses. Mr. S. F. Newman of Newbury, exhibited a very fine little driving horse, with some defects and many redeeming qualities. This horse would be regarded by most men as a very excellent

little driving horse, but for obvious reasons was not deemed by your committee as entitled to the first premium; under the circumstances we gave him the second premium. Mr. H. H. Hale of Bradford showed us a very promising young horse of good blood and well trained, but being a little out of condition did not show his best qualities. Your committee were of the opinion that this horse is better adapted to the track than to the road, and yet we thought his road qualities entitled him to the third premium.

In concluding our report your committee would say that this being the first year that the society has offered premiums for gentlemen's driving horses, the requirements for this class of horses were not fully understood by horse owners, hence we would say, a horse may be a first class family horse and be entitled to a first premium in that class, but not worthy of notice in this class; or a horse may stand at the head of his class as a trotter but not worth a penny as a road horse. Our ideal of a gentleman's driving horse is first, good size, weighing not less than a thousand pounds; he should be built up strong and firm, capable of great endurance; he should be high mettled, full of courage, ready to take the bit and without asking, leave twelve miles of the road behind him every hour for four consecutive hours. It is not necessary that he should be handsome, nor entirely safe for family use, nor sure to pull at a load every time, nor to show you a two-twenty gait on the track; all or any of these qualities would add to his value if he has the other requisites for speed and endurance. There are more than one hundred horses in Essex county that are capable of taking the first premium as gentleman's driving horses, and we hope to see several of them at our next annual cattle show. All of which is most respectfully submitted,

O. S. Butler, M. C. Andrews, M. B. Merrill.—*Committee.*

FARM AND DRAFT HORSES.

The Committee on Farm and Draft Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$10. First premium, to Peter Holt, Jr., North Andover.
$6. Second premium, to Richard S. Bray, Newbury.
$4. Third premium, to J. A. Illsley, Georgetown.

Your Committee regret there were not more premiums to award as all the horses did remarkably well, and there was an unusual number of entries. It is a very difficult matter to determine the best horse of fourteen when some only weigh nine hundred and fifty pounds and others weigh thirteen hundred, but the committee awarded the premiums to the best of their ability, considering all things.

John M. Danforth, Wm. E. Kimball, E. P. Perley, Albert Titcomb, E. G. Nason.—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee on Pairs of Draft Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$12. First premium, to Walter F. Dodge, Beverly.
$8. Second premium, to C. N. Maguire, Newburyport.
$4. Third premium, to J. K. Adams, Newbury.

J. Otis Winkley, *Chairman.*

COLTS—FIRST CLASS.

The Committee on Colts, 1st Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$10. First premium, to J. J. Downing, Andover, for 4 year old colt.

$6. Second premium, to J. B. Nichols, Haverhill, for 4 year old colt.

$4. Third premium, to D. A. Brown, Newbury, for 4 year old colt.

$8. First premium, to J. J. Downing, Andover, for 3 year old colt.

$5. Second premium, to Augustus Safford, Newburyport, for 3 year old colt.

The number of colts entered for premium was large and the quality was remarkably good. The committee found it very difficult to decide upon the comparative merits of many of them; they made their awards after very careful examination.

The Committee were highly pleased with the red roan of S. M. Witham of Newbury, the sorrel of W. C. Mackintosh of West Newbury, and the light bay of C. C. Cooke of Haverhill, and consider them all worthy of honorable mention.

Hiram Young, George B. Loring, Daniel A. Carleton, Charles Perley.— *Committee.*

COLTS—SECOND CLASS.

The Committee on Colts, 2d Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$6. First premium, to H. H. Dempsey, Wenham, for 2 year old colt.

$6. First premium, to H. H. Hale, Bradford, for 1 year old colt.

$4. Second premium, to Ben Perley Poore, West Newbury, for 1 year old colt.

Your Committee had great difficulty in deciding upon the above awards, as colts were brought in competition with each other that were bred for entirely different purposes, and which should be judged by different standards. The committee were obliged not only to judge what were the best colts but what were the best kinds of colts, whether trotters, roadsters or draft horses. In such competition two classes must necessarily be neglected. There were many colts that for draft purposes were undoubtedly superior to those to which the premiums were given.

Thomas Sanders, Frank A. Whitman, N. S. Harris, S. Curtis, Jr., A. L. Moore,—*Committee.*

SWINE—FIRST CLASS.

The Committee on Swine, 1st Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$8. First premium, to D. A. Perley, Danvers, for Weaned Pig.

$8. First premium, to Jerry Cashman, Newburyport, for Chester Boar.

$5. Second premium, to W. W. Perkins, Newbury, for Boar.

$5. Second premium to W. W. Perkins, Newbury, for Breeding Sow.

$5. Second premium, to Jerry Cashman, Newburyport, for Weaned Pigs.

JOSEPH AKERMAN, *Chairman.*

SWINE—SECOND CLASS.

The Committee on Swine, 2d Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$8. First premium, to H. H. Hale, Groveland, for Yorkshire small breed boar.

$5. Second premium, to F. R. Adams, Newbury, for Yorkshire boar.

$8. First premium, to George F. Merrill, Newburyport, for litter of seven weaned Yorkshire pigs.

Andrew Lane, F. F. Fearing, W. H. Greenleaf.—*Committee.*

SHEEP.

The Committee on Sheep have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium to Charles Perley, West Boxford, for best 10 Southdowns.

$6. Second premium, to Thomas Sanders, Haverhill, for best 10 Merinos.

$8. First premium, to Richard Newell, West Newbury, for Best Buck.

4. First premium, to Charles Perley, West Boxford, for best 5 lambs.

G. W. Sargent, John B. Jenkins.—*Committee.*

STATEMENT OF THOMAS SANDERS.

Sept. 21, 1885.

To the Committee on Sheep:

GENTLEMEN:—I enter this flock of thoroughbred registered Atwood Merino Sheep from which last May, 1885, I clipped the following fleeces:

Ram No. 7, one year old, bred by myself, and entered for premium for best Ram at less than one year, having been sheared in May and dropped the previous June: 17½ lbs.

Ewe No.	63,	16½ lbs.
" "	72,	16 "
" "	73,	15½ "
" "	74,	15½ "
" "	16,	15½ "
" "	65,	15 "
" "	45, T. D. Hall ?	15 "
" "	7,	14 ¾"
" "	10,	14 "
" "	45, D. Crofut ?	12 "
		167¼ "

An average for the eleven, 10 ewes and 1 ram, of 15 lbs. 3 oz., per head, fed on pasture in summer and ensilage in winter, with some turnips. An average of nearly 15 lbs. per head ; for the ten ewes, 149¾ lbs. My whole flock of 25, 14 ewes in addition to the above, sheared a little over 12 lbs. 1 oz. per head, 303¾ lbs. from the 25.

I also enter two pens of lambs, one of ewes and one of rams, descended from these ewes and sired by a ram known as the "Lost Ram," belonging to O. & E. S. Hall, of East Randolph, Vermont. Some of the ancestors of this flock were bred by me in Vermont 20 years ago.

THOMAS SANDERS.

BIRCHBROW, HAVERHILL, MASS.

POULTRY—FIRST CLASS.

The Committee on Poultry, First Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$2. First premium, to Frank E. Young, Newburyport, for Light Brahma Fowls.

$2. First premium, to C. S. Bartlett, Newburyport, for Light Brahma Chicks.

$2. First premium, to E. E. Bartlett, Newburyport, for Partridge Cochin Fowls.

$2. First premium, to P. T. Winkley, Newburyport, for Partridge Cochin Chicks.

$1. Second premium to C. S. Bartlett, Newburyport, for Partridge Cochin Chicks.

$2. First premium, to W. B. Winkley, Newburyport, for Black Cochin Chicks.

$2. Gratuity, to C. A. Cooper, Lynnfield, for Langshang Fowls.

$1. Gratuity, to C. A. Cooper, Lynnfield, for Langshang Chicks.

$1. Gratuity, to W. H. Willis, West Newbury, for Light Brahmas.

A. F. Harvey, L. H. Bailey, G. D. Walton.—*Committee.*

POULTRY—SECOND CLASS.

The Committee on Poultry, 2d Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$2. First premium, to P. T. Winkley, Jr., Newburyport, for Plymouth Rock Chicks.

$1. Second premium, to P. M. Haley, Newburyport, for Plymouth Rock Chicks.

$2. First premium, to David Little, Newbury, for Game Bantam Fowls.

$1. Second premium, to David Little, Newbury, for Game Bantam Chicks.

$2. First premium, to H. C. Stephens, Newburyport, for B. B. Red Game Chicks.

$2. First premium, to Edw. E. Bartlett, Newburyport, for Brown Leghorn Chicks.

$2. First premium, to John M. Hardy, Georgetown, for Sea Bright Bantam Chicks.

$2. First premium, to Eben Smith, Newburyport, for Rose Comb Brown Leghorn Fowls.

$1. Second premium to Eben Smith, Newburyport, for Rose Comb Brown Leghorn Chicks.

$2 First premium, to C. A. Cooper, Lynnfield, for White Leghorn Chicks.

$1. Second premium, to Geo. E. Kent, Newburyport, for Black Spanish Chicks.

$2. Gratuity, to Eben Smith, Newburyport, for Wyandotte Chicks.

$1. Gratuity, to E. W. Buzzel, East Salisbury, for Wyandotte Chicks.

The committee regret that no written statement was given them by any of the exhibitors. They were obliged to do the best they could, judging by the looks of the fowls. But two members of the committee could be found, and Mr. Moses Plummer was asked to serve, which he did. We find it hard to decide on all the fine points of some breeds, but did the best that we could in our new position.

Geo. H. Plummer, C. J. Peabody, M. A. Plummer.—*Committee.*

PLOUGHING WITH DOUBLE OX-TEAMS.

The Committee on Ploughing with Double Ox-Teams have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to Jaques & Bray, Newbury.

$10. Second premium, to Wm. P. Coffin, Newbury.

$9. Third premium to Wm. W. Perkins, Newbury.

$8. Fourth premium, to Horace P. & James Noyes, Newbury.

*We recommend a gratuity of $8.00 to Carlton & George Little, Newbury.

Horace F. Longfellow, Albert Berry, Edward G. Dale, David Warren.— *Committee.*

PLOUGHING WITH HORSES.

The Committee on Ploughing with Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$10. First premium, to Paul T. Winkley, Jr., Newburyport.

$7. Second premium, to S. F. Newman, Newbury.

$5. Third premium, to C. N. Maguire, Newburyport.

J. N. Rolfe, Edward Harrington, G. C. Rogers, A. M. Bodwell.— *Committee.*

PLOUGHING WITH THREE AND FOUR HORSES.

The Committee on Ploughing with three and four horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium to Edward Kent, Newbury, for four horses with Hussy Plough No. 50.

$10. First premium, to Frank Perkins, Newbury, for Three Horses with Hussy Plough.

Alvin Smith, George F. Averill, T. W. Hazeltine, T. G. Ordway.— *Committee.*

PLOUGHING WITH SWIVEL PLOUGH.

The Committee on Ploughing with Swivel Plough, have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

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*Recommendation approved by Society and $8 gratuity voted.

$10. Second premium to Lyman Wilkins and W. P. Christopher, Danvers, for Double Ox-Team.

$10. First premium, to Jonas Rollins, Danvers, for Two Horses.

Nathaniel Shatswell, J. Frank Foster, Samuel S. Pratt. —*Committee.*

PLOUGHING WITH SULKY PLOWS.

The Committee on Ploughing with Sulky Plow have attended to their duty and respectfully report to the Secretary that they have made the following awards :

$10. First premium, to A. J. Stockbridge, Rowley, for best performance.

$8. Second premium to S. S. Pratt, Danvers.

The Committee would state that both of the competitors used the Cassidy plough, and while disappointed in not having the opportunity of viewing the working of competitive Ploughs which would have made the trial more interesting, were nevertheless highly gratified with the performance in every detail, and would especially mention the superior manner in which the dead furrows were completed.

An *exhibition* trial of a side-hill Sulky Plough attracted considerable attention, but in the opinion of the Committee was rather better adapted for old land than sod.

A. T. Newhall, F. W. Sargent, J. Q. Evans.—*Committee.*

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$10. First premium, to J. C. Stanley, Newburyport, for Collection of Agricultural Implements.

$5. Gratuity, to T. P. McKinney, Newburyport, for do.
$5. First premium, to George E. Daniels, Rowley, for Horse Cart.
$3. Gratuity, to H. H. Spofford, Groveland, for do.
$1. Gratuity, to C. K. Ordway, agent, West Newbury, for Granger Plough.
$2. Gratuity, to C. N. Maguire, Newburyport, for Frye's Plow.
$5. Gratuity, for Ezra K. Preston, Beverly, for Hoisting Machine.

CARRIAGES.

The Committee on Carriages have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$10. First premium to George Adams & Son, Merrimac, Mass., for one Democrat two seat wagon.
$5. Second premium, to George E. Daniels, Rowley, for one Express Wagon.
$2. Gratuity, to George E. Daniels, Rowley, for one Two-Seat Pung.

Lemuel C. Loud, Aaron Sawyer, Thos. K. Leach.—*Committee.*

REPORT OF SUPERINTENDENT OF EXHIBITION HALL.

I would respectfully report that the 65th exhibition of the Society at the "Prospect Street Rink" in Newburyport, as far as quantity and quality of exhibits, was a success, exceeding my expectations, for at 8 A. M. on the day the Fair was opened, I thought it would be a failure as up to that time the contributions of fruit and vegetables had

been so small that the tables looked discouraging, after which time for more than two hours they were brought in much faster than entry clerks could enter them and the Hall Committee could properly arrange them; and it was therefore unsatisfactory to me and I know must have been to the judges of the merits of the exhibits, by being put to considerable trouble and inconvenience in awarding the premiums, by not having the exhibits classified in their arrangement, and imperfect entries made in some instances. I consider the management almost entirely blameless in the matter; the fault was almost wholly that of the exhibitors who waited too long before making their entries and then coming not properly prepared for making them. As far as the entry is concerned, a person with one article will take as much time as one properly prepared would require for a wagon load, and I assert that the persons who live in the place where the Fair is held, who come at a late hour, keeping farmers waiting who have come from a distance with perhaps a wagon load to enter and then arrange upon the tables before transacting the Society's business, are to blame for being so unfair and unjust. Many do it without thought of its unfairness to others and we trust they will be more thoughtful in the future. If not so I am afraid the Society will be forced to shorten the time in which *local* exhibitors can enter *their* exhibits, allowing those from a distance until the latest limited hour.

I hope that the Trustees will endeavor to impress upon exhibitors from their localities the convenience to them of making entries the day or night before the opening of the Fair, or as early on the opening day as possible, and *urge local* exhibitors to do it the day and night previous that, the opening day, as a matter of fairness, be given to those from a distance. With full knowledge of its importance, in my new position its urgency will receive all the prominency that I can give to it.

At Salem in 1883, I saw the importance in the saving of time and accuracy of entry, in having experienced entry clerks, having some there that were experienced and some inexperienced, I made up my mind that if I was not more successful the second year in getting better help in that very important part of the successful management of a Fair, I should recommend to the Society the employment of permanent clerks to receive the entries from year to year in certain departments and to remain the day after the Fair and assist in their delivery. The following year I had more help from those experienced, and the inexperienced of the year previous had then the better experience so that everything was so prompt and successful that I did not trouble the society with a suggestion that would add to its expense. Now, however, with the experience at Newburyport, I fell assured that it will add to the future success of our exhibitions for the Society to employ two or more clerks to receive entries in certain departments from year to year, especially from early in the day on which the fair opens to the time of closing entries, not however to dispense with the *voluntary help which is essential* to the success of any fair in any place. My judgment is, that experienced clerks are needed as instructors to the inexperienced, for the Superintendent has all he ought to do answering questions, arranging the hall for the exhibits, overseeing their arrangement upon the walls and tables, and should not feel obliged to enter articles on the books or have any care of them, or entry clerks, except when referred to for advice, until the entries are finished and the books returned to him for inspection and transmittal to the Committee of Judges.

I would also recommend to exhibitors even if they exhibit only a single article, the importance of having, in addition to having it on the article, the name of exhibitor, residence, name, or kind of exhibit, all written plainly on a

card or piece of paper and handed to the "entry clerk," as mistakes sometimes occur by the clerk making the entry by the *sound of the name to him* which is different from the real name correctly written. To exhibitors of several varieties I recommend that they apply to the Secretary previous to the exhibition for "entry slips" stating how many plates of apples, of pears, of grapes, or how many varieties of vegetables he wishes entry slips for. By the use of the slips time will be saved for himself and the entry clerk, for by numbering the entries on the slip, reserving the same numbers in the book, he can write them into his book after the rush is over.

For the hall there should be a large active committee of *voluntary workers* to assist exhibitors in placing their exhibits upon the tables in the proper place assigned for them and otherwise assist in receiving, arranging and caring for the exhibits on the tables during the exhibition, and assisting in their delivery after it is over. In our late exhibition there was much faithful work done by such a committee which was greatly appreciated by myself, for the society, but there was not enough *men* to assist in the Fruit and Vegetable departments in receiving and arranging the exhibits, 600 entries in those departments in a little over two hours, exceeding the previous year in Pears, 58 plates, in apples, 110 plates and in vegetables fully up to last year in number of lots (excluding Mr. Gregory's special exhibit of last year) would have taxed the energies of all that could have worked to advantage, to classify them in arrangement, many more than were available.

My attention was called in several of the departments to the non-compliance of the rules of the society, by those who, had the rules been complied with, would have obtained the premium offered. A bushel of potatoes containing *four* pecks of the best potatoes in the hall can never receive the

Society's premium offered for *one* peck, or *ten* or *thirteen* apples or pears, although the very best of their kind can not take a premium offered for *twelve*; no more and no less than just what is required should be allowed a premium, that exhibitors *will know* that the Society does not require or desire a quantity *more than enough* because it is *good* or *less than enough* for the same reason, unless "for a name" or as "something new," or "exhibition only." The Society does desire and is ready to reward the exhibitor of *new* meritorious fruits, vegetables, flowers and articles of domestic manufactures, and the Superintendent takes pleasure in assigning to them all the space (at his disposal) necessary to show their merit.

The Society should own more plates, it having been 200 short this year, which had to be hired, as all exhibitors should be equally treated, although coming at the eleventh hour; the use of round plates with square ones, the fruit in the latter showing to better advantage, is not giving equal showing to all. I therefore recommend, as the square form of plate is now made for general use, that a sufficient number be purchased, also vases of suitable material for durability be procured for the flower department which has now become a very attractive and instructive part of our Fair. Stands for flowers were made this year, designed for compact packing in transportation which were not used for lack of time in procuring suitable bottles.

The use of the blanks recommended and adopted last year for reports of committees have proved a successful improvement on the old style of making reports, written, as they sometimes were, "on the back of an old envelope," "on paper of all shapes and sizes written on both sides and sometimes again across." With the new blank, if the amount of premium or gratuity is written in its appropriate column opposite the article for which it is awarded, "remarks" made as deemed best by the Committee at that time, *then signed by all the committee acting* completes it.

If the chairman or any of the committee desire to make an extended report afterwards, he knows the award part of it is completed and on file, and time need only be taken for a report on the exhibits and suggestions for improvement in that department. I would suggest, in this connection, that all reports of committees, statements made in regard to stock, crops, or any other matter connected with the society be written *on one side only* of the paper, as when written on both sides, it all has to be re-written by the Secretary for the Printer's use.

Thanking the Society for their confidence in promoting me to the honorable and responsible office of Secretary, so long and ably filled by Mr. Preston, I will give to it my best abilities, I can promise no more and I certainly should not do less. Respectfully submitted,

DAVID W. LOW,
Supt. of Hall.

DAIRY.

The Committee on Dairy have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Daniel H. Hale, Rowley, for butter.

$8. Second premium, to M. B. Chesley, Amesbury, for butter.

$6. Third premium to Thomas Walton, Haverhill, for butter.

Geo. B. Blodgett, Alden C. Estes, James D. Pike, Mrs. Chas. J. Perley.— *Committee.*

STATEMENT OF DANIEL H. HALE.

I enter for premium twelve pounds of butter, made in the following manner:—The butter was made from milk of

grade Jerseys. The milk is strained in shallow pans, in a cool room, to stand until the animal heat escapes, it is then removed to the milk room and allowed to stand from thirty-six to forty-two hours; it is then skimmed and the cream put in the cream jar, care being taken to thoroughly stir it with each new addition of cream. When slightly acid it is churned in a Blanchard churn, until the butter reaches the granular state, then the buttermilk is drawn off and a pail-ful of weak brine put in the churn and churned for a few minutes, this is then drawn off and another pailful of brine put in and churned as before; when sufficiently washed the butter is taken from the churn before drawing off the brine, as the small white cheesey particles which sometimes adhere to the butter are better removed than by first drawing off the brine. The butter is then worked over and salted, three fourths of an ounce of salt to the pound, much care being taken to remove all the buttermilk, it is then put in large earthen pans, and placed in a cool cellar until the next morning, when it is again worked over, weighed and balled up and again placed in the cellar until the next day when it is ready for the market. The milk and cream is kept, through the whole operation as near 60 degrees as possible.

STATEMENT OF M. B. CHESLEY.

The butter I offer for premium was made from the cream of Jersey milk. The details of the process as follows:

The milk is strained into the deep cans of a Mosely cabinet creamery, cooled by ice and skimmed after standing 24 hours. The cream is kept for ripening, usually about 24 hours, then churned in a Blanchard churn. After the buttermilk is withdrawn it is washed with clear cold water and salted in the proportion of 1 oz. of salt to 1 lb. of butter. Salt is worked in with a hand paddle and the butter allowed to stand until quite solid, when it is worked with

hand lever by a rolling pressure. It is then immediately stamped in balls as exhibited.

The cows were fed on grass only and the butter contains no artificial coloring matter. Amount of exhibit six pounds.

STATEMENT OF THOMAS WALTON.

The small tub of butter herewith entered for premium is the same as we send to market every day, no especial pains taken to compete with any other exhibit. We keep some fifteen common native cows, and use the common 10 qt. pans, and the Elmer double action churn.

DAIRY.

The Committee on Dairy have attended to their duty, and respectfully report to the Secretary that they have made the following award:—

$15, first premium, and Diploma to Charles J. Peabody, Topsfield, for greatest product of milk.

For the Committee,

GEO. B. BLODGETT,
Acting Chairman.

STATEMENT OF CHARLES J. PEABODY.

To the Committee on Dairy:

GENTLEMEN:—I enter for premium offered "for the greatest produce of Milk on any farm, in proportion to the number of cows producing it, not less than four, from April 1, 1884, to April 1, 1885," my herd which April 1, 1884, consisted of six cows and five two year old heifers. They are a fair sample of the ordinary milking stock of the county, being Jersey and Ayrshire grades. Five of the number I raised, and find as a general rule that home raised cows are superior to those bought, especially in number of months in the year they will give milk.

On the above date the heifers had calved and were giving an average of six quarts each per day. The cows calved later in the season, No. 1, June 10; No. 2, June 20; No. 3, July 16; No. 4, in August; No. 5, in October; No. 6 did not have a calf within the year.

The heifers were a lot that came into my possession in settlement of an account and I sold them as opportunity offered through the season.

I fed the herd from April 1st to May 20, meadow hay with 4 qts. shorts and 2 qts. meal to each animal giving milk; and hay only to the dry cows. From May 20 to Aug. 1, good pasture only, excepting 200 lbs. shorts to one of the heifers. After Aug. 1, corn fodder daily until October, when the fall feed began; After October 15, a little grain was fed; 400 lbs. previous to Nov. 1st, after that time the regular ration of 4 quarts of mill-feed was fed with about 5 lbs. meadow hay to each cow until Nov. 20, when they came to the barn for the winter. They were wintered on meadow hay, salt hay and corn fodder with a small amount of English hay as an occasional change.

About 22 lbs. of hay and corn fodder was fed daily, two pounds of which was probably not eaten, being the hard butts of the corn and the coarser parts of the hay. Four quarts of cob meal and mill feed were given each cow.

Seven calves were fatted, the value of which was $45.00
Three calves were sold young for 5.00

The milk, except that used in the family, was sold at the door at three cents per quart from April to October, and at four cents from October to April.

The only changes made in the herd during the year were by sale of the heifers as follows; one was sold June 15; one June 20; one July 1; one Oct. 11; one Nov. 15; after which date the whole produce of milk was from six cows.

The record is as follows:—

April, four cows being milked,	1000 qts.
During this month the heifers were suckling calves and two cows were dry.	
May, 3 cows and 1 heifer in milk,	950 qts.
June, 3 cows and 3 heifers for the month, 1 heifer 15 days, 1 heifer 20 days,	1250 qts.
July, 4 cows and 2 heifers in milk,	1551 qts.
August, 3 cows and 2 heifers in milk,	1587 qts.
One cow calved during this month, her calf was fatted and took the milk to Sept. 10.	
September, 4 cows and 2 heifers for this month, 1 cow for 20 days, 1 heifer nearly dry,	1631 qts.
October, 5 cows and 1 heifer,	1735 "
November, 6 cows and 1 heifer, 15 days,	1842 "
December, 6 cows,	1563 "
January, 6 cows,	1384 "
February, 5 cows (1 cow dry this month),	1200 "
March, 4 cows (2 cows dry this month),	1028 "
Total produce of milk for the year,	16,721 qts.
Value at 3½ cents per quart,	$585.23
Value of calves sold,	50.00
Value of produce of herd for the year,	635.23

As at some times in the year I have a family of boarders, and the amount of milk used at home is always large, I reckon that so used, in the whole product at the regular selling price, keeping a memorandum of the quantity.

*STATEMENT OF JOHN Q. EVANS.

I herewith make an entry for the society's premium for the greatest product of milk in proportion to the number of cows of not less than four in number, for one year from April 1st, 1884 to April 1, 1885.

*As the above was the only other entry his statement is given.
D. W. Low, Sec'y.

My herd contains thirteen, and part of the year fourteen cows, of which number two have been dry, as I arrange it so that an average amount of milk will be produced at all times of the year. The cows are fair native stock, bought for service, a few of them showing a trace of Ayrshire and Jersey blood. I have bought two cows during the year and sold an equal number.

The feed for the summer has consisted of pasture with a light feed morning and night of hay or corn fodder, and one quart of corn meal and one quart of cotton seed meal to each cow. About Nov. 1st the cows were taken up for the winter and the following plan was adopted for the season. The cows were milked at 5.30 and immediately after were fed a light feed of salt hay probably five or six lbs. each; half an hour later they were fed twenty pounds of ensilage each, on which was placed a shovel full of wet brewers screenings; at 11 o'clock they were watered, once a day being all that they would drink, water being supplied in the barn, and if cold or stormy they did not go out of doors at all; if pleasant, however, they were allowed to remain out a short time, after which they were tied up and allowed to remain quiet until 4 P. M., giving ample time for them to digest their morning meal. At 4 o'clock, six or seven pounds of hungarian, cut dry stocks or meadow hay was fed, changing every day or two from one to the other, to give more variety to the feed, and at 5 o'clock they were milked, after which another feed of twenty pounds ensilage each was given on which one quart of meal, one quart of cotton seed and a shovel full of wet screening was placed, and the barn was shut up for the night.

From the above you will see that my system of feeding is very simple, in reality but two feeds a day being given, leaving a long time for the food to be digested. My stable never freezes; while a row of large windows on the south

side makes it very pleasant, and I feel sure equally profitable. I have used a liberal supply of bedding consisting of fine cut thatch which I find is the cheapest bedding that I can obtain.

From the above estimate it will be seen that the entire amount of feed to each cow for the year is as follows: 1500 salt hay, $7.50; 1500 other dry hay, $9.00; 4½ tons ensilage, $22.50; 11 bush meal, $7.00; 11 bush. cotton seed meal, $8.25; ½ ton Brewer's screening, $7.00; pasturing, (two-thirds enough,) $7.50; making the total cost of feed per cow for the year, $68.75, to which if we add $15 for care, $2 for bedding and $1 for depreciation, we have a total cost of $86.75 each. The yield of milk for the year is as follows: April, 3418 quarts; May, 3663; June, 3534; July, 3193; Aug., 2883; Sept., 2593; Oct., 3039; Nov., 2437; Dec., 2517; Jan., 2313; Feb. 2338; March, 3191; a total of 35,119 qts., or an average of 2,601 1-3 qts. for each cow; and as I have sold the milk for 6 cts. a qt. in town, it is worth 4 cents at the barn, making the value of milk per cow, $104.05, to which if we add $24 for manure and $1 for the calf sold at three days old, we have the total receipts per cow of $129.05, deducting $86.75, the cost of the year, and we find a balance of $42.30, as the profit on each cow, and as the herd has averaged 13½, we have $544.05, as the profit on the herd for the year. No charge has been taken for capital invested as each can estimate that as he thinks right. In conclusion I would say that my herd has been entirely free from sickness for the year, and the cows when dry are fat enough for the butcher. All of which is respectfully submitted,

John Q. Evans.

Salisbury.

BREAD, HONEY AND CANNED FRUITS.

The Committee on Bread, Honey and Canned Fruits have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$1.50. First premium, to Winifred Pingree, Newbury, for Brown Bread.

$1.00. Second premium, to Mary J. Lucey, Newbury, O. Town, for Brown Bread.

$3.00. First premium, to Mrs. E. A. Cole, W. Boxford, for White Bread.

$2.00. Second premium, to Mrs. F. E. DeJean, Newburyport, for do.

$1.00. Third premium, to Mrs. D. R. Parker, Groveland, for do.

50 cts. Gratuity, to Annie P. Day, W. Boxford, for do.

50 cts. Gratuity, to Nellie Bryant, W. Newbury, for do.

50 cts. Gratuity, to Mrs. S. G. Pall, Newburyport, for do.

50 cts. Gratuity, to R. S. Tibbetts, Newburyport, for Steamed Cereals.

50 cts. Gratuity to Mrs. Betsey Paul, Newburyport, for White Bread.

50 cts. Gratuity. to Mrs. Betsey Paul, Newburyport, for Berwick Sponge Cake.

$3.00. First premium, to John Preston, Georgetown, for Honey.

$1.00. Gratuity, to Chas. H. Ireland, Newburyport, for Grape Wine.

$3.00. First premium, to Mrs. N. E. Ladd, Groveland, for Jelly and Pickles.

$2.00. Second premium, to Miss Lizzie J. Wilson, North Beverly, for Bartlett Pears, canned.

40 cts. Gratuity, to Mrs. M. Haskell, Newburyport, for Bartlett Pears (canned).

$3.00. First premium, to Mrs. G. W. Gage, Methuen, for Dried Apples.

Rufus Kimball, Miss Sue E. Emerson, Mrs. Chas. B. Emerson, John A. Putnam.

STATEMENT OF WINIFRED PINGREE.

Steamed Brown Bread. One pint of rye meal, one pint of Indian Meal, a small cup of molasses, three teaspoonfuls saleratus. Salt to the taste. Mix with sour milk. Steam five hours. Made by Miss Winifred Pingree, 10 years old.

Newbury, Sept. 22, 1885.

STATEMENT OF MARY J. LUCY.

I present for your inspection one loaf of Brown Bread, made from Rye, Indian and Graham, in the following proportions: 2-7 Rye, 2-7 Indian, 3-7 Graham. Add 1-2 cup yeast, 1-3 cup molasses, mix with warm water. Let rise four hours. Put in covered tin pan and place in the oven immediately. Bake four hours.

Mary J. Lucy.

Newbury, Sept. 22, 1885.

STATEMENT OF MRS. E. A. COLE.

The bread I enter for premium was made in the following manner: 3 quarts of best Haxall Flour mixed with warm water, ½ pint of potato yeast of my own make, and a tablespoonful of lard, allowed to rise over night; then kneaded over and put into bake tins, and allowed to rise about two hours, then bake one hour, 15 minutes, or until done.

Mrs. E. A. Cole.

West Boxford.

STATEMENT OF MRS. D. R. PARKER.

Bread. One quart of Washburn's Patent Haxall Flour, one-fourth of Vienna Yeast cake, tablespoon of sugar, teaspoon of salt, wet with new milk, rise over night, then knead about twenty minutes, and rise again; bake one hour in moderate oven.

Mrs. D. R. Parker.

Groveland.

STATEMENT OF JOHN PRESTON OF GEORGETOWN.

I enter for premium 10 pounds of comb and one pound of extracted honey. The honey was mostly gathered from white clover, between June 20th and July 10th this season, by bees, a cross between blacks and Italians. It was stored in two pound prize boxes placed on honey racks over movable frames in Langstroth hives of my apiary in Georgetown, Mass.

JOHN PRESTON.

STATEMENT OF MRS. G. W. GAGE.

The dried apples I exhibit are Dutch Codlins. They were pared with an apple parer, sliced by hand, and dried in the sun three days.

MRS. G. W. GAGE.

METHUEN.

PEARS.

The Committee on Pears have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$3.00. First premium to Wm. Burke Little, Newbury, for Beurre Bosc.

3.00. First premium, to Wm. W. Perkins, Newbury, for Bartlett.

3.00. First premium, to Daniel Lunt, Newbury, for De Anjou.

6.00. First premium, to Edwin Bates, Lynn, for 24 specimens Duchesse.

3.00. First premium, to J. O. Brien, Bradford, for Lawrence.

3.00. First premium to Edwin Bates, Lynn, for Bon de Jersey.

3.00. First premium, to A. J. Hubbard, Peabody, for Marie Louise.

3.00. First premium to J. H. Hill, Amesbury, for Ornandago.

3.00. First premium, to J. H. Hill, Amesbury, for Seckel.
3.00. First premium, to J. H. Hill, Amesbury, for Mt. Vernon.
3.00. First premium, to J. C. Stanley, Newburyport, for St. Michael Arch.
3.00. First premium, to J. O. Brien, Bradford, for Sheldon.
3.00. First premium, to Daniel Lunt, Newbury, for Urbaniste.
3.00. First premium, to D. A. Pettengill, Danvers, for Vicar of Winkfield.
3.00. First premium, to B. P. Ware, Marblehead, for Winter Nellis.
3.00. First premium, to A. J. Hubbard, Peabody, for Paradise d' Automne.
3.00. First premium, to James Fogg, Newburyport, for Belle Lucrative.
3.00. First premium, to J. H. Hill, Amesbury, for Dana's Hovey.
3.00. First premium, to J. H. Hill, Amesbury, for Beurre Langlier.
1.00. Gratuity, to Asa A. Stone, Ipswich, for Duchess.
1.00. Gratuity, to D. A. Pettengill, Danvers, for Sheldon.
1.50. First premium, to Edwin Bates, Lynn, for Howell.
1.00. Gratuity, to Wm. Huff, Newbury, for Beurre Bosc.
1.00. Gratuity, to Thomas Hall, Rowley, for De Anjou.
1.00. Gratuity, to A. J. Hubbard, Peabody, for B. Clairgeau.
1.00. Gratuity, to B. P. Ware, Marblehead, for Seckel.
1.00. Gratuity, to J. O'Brien, Bradford, for Bon de Jersey.
1.00. Gratuity, to C. M. Lunt, Newbury, for Bartlett.
1.00. Gratuity, to E. F. Webster, Haverhill, for Flemish Beauty.
1.00. Gratuity, to A. J. Keniston, Newburyport, for Souvenir de Congress.

2.00. Gratuity, to Mrs. N. E. Ladd, Groveland, for Sheldon.

8.00. First premium, to J. H. Hill, Amesbury, for largest collection of varieties recommended by the Society for cultivation.

6.00. Second premium, to J. O'Brien, Bradford, for 2nd largest collection of varieties recommended by the Society for cultivation.

4.00. Third premium, to E. F. Webster, Haverhill, for 3rd largest collection of varieties recommended by the Society for cultivation.

2.00. Gratuity, to W. H. Huse, Newburyport, for 4th largest collection of varieties recommended by the Society for cultivation.

328 plates of Pears were entered for exhibition. In several instances plates and varieties were wrongly numbered and placed, and several varieties were not numbered as per book and others entirely omitted. In other instances several fine collections did not observe the rules of the society, either having *more* than the required number or not enough specimens.

Among the older varieties entered for exhibition the Committee noticed several plates of Flemish Beauty. Having lost their regal beauty for some years, their present appearance affords ground of hope that they may regain their lost virtues. Whoever succeeds in finding a cure for its ills and permanently restores its beauty will be entitled to a high premium.

The competition was so close that it was hard to deter mine in many case to whom to give premiums. From this and causes intimated above, their work was much delayed. In future fairs they would suggest the employment of expert entry clerks in sufficient numbers to expediate the work of making entries.

W. H. B. Currier, B. F. Stanley, Lon A. Bassett, Thomas P. Hale.— *Committee.*

APPLES.

The Committee on Apples have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$3.00, First premium, to Henry A. Knapp, Newbury, for Baldwins.

3.00, First premium, to Frank A. Whitman, Wenham, for Danvers Winter Sweet.

3.00, First premium, to J. Henry Hill, Amesbury, for King of Tomkins Co.

3.00, First Premium, to J. Henry Hill, Amesbury, for Granite Beauty.

3.00, First premium, to Chas. M. Lunt, Newbury, for Red Russett.

3.00, First Premium, to C. C. Blunt, Andover, for McCarty.

3.00, First premium, to W. W. Perkins, Newbury, for Tolman's Sweet.

3.00, First Premium, to J. Henry Hill, Amesbury, for Bailey's Sweet.

3.00, First premium, to T. K. Bartlett, Newburyport, for Drap d' Or.

3.00, First premium, to Joseph Ilsley, Newbury, for Hubbardston.

3.00, First premium, to Augustus Verry, Danvers, for Hurlburt.

3.00, First premium, to Edmund F. Knight, Salem, for Porter.

3.00, First premium, to Benj P. Ware, Marblehead, for Pickman's Pippin.

3.00, First premium, to Henry A. Knapp, Newbury, for Roxbury Russet.

3.00, First premium, to Silas Plummer, Newbury, for R. I. Greening.

3.00, First premium, to John O. Brien, Bradford, for Sweet Baldwin.

3.00, First premium, to T. K. Bartlett, Newburyport, for Gravenstein.

3.00, First premium, to Chas. M. Lunt, Newbury, for Hunt's Russett.

3.00, First premium, to Wm. B. Little, Newbury, for Smith's Cider.

1.50, First premium, to T. J. King, West Newbury, for President.

1.50, First Premium, to Benj. P. Ware, Marblehead, for Crab Apples.

8.00, First premium, to J. Henry Hill, Amesbury, for collection of Apples.

6.00, Second premium, to S. B. George, Groveland, for collection of Apples.

6.00, First Premium, to T. K. Bartlett, Newburyport, for 24 specimens Apples.

2.00, Gratuity, to S. B. George, Groveland, for Hunt's Russetts.

2.00, Gratuity, to Thos. Sawyer, Boxford, for Gravenstein

1.00, Gratuity, to C. C. Blunt, Andover, for Colvert.

1.00, Gratuity, to J. N. Rolfe, Newbury, for Baldwins.

1.00, Gratuity, to I. P. Noyes, Newburyport, for Pippins.

1.00, Gratuity, to J. Henry Hill, Amesbury, for Farmeuse.

1.00, Gratuity, to T. P. Hale, Rowley, for Conn. Greenings

1.00, Gratuity, to T. P. Hale, Rowley, for Spitzenburge.

1.00, Gratuity, to John O. Brien, Bradford, for Williams Sweet.

1.00, Gratuity, to P. M. Ilsley, Newbury, for Roxbury Russett.

E. P. Richardson, Joseph How, T. J. King, Edwin V. Gage, Frank Marsh,—*Committee.*

PEACHES, GRAPES, AND ASSORTED FRUITS.

The Committee on Peaches, Grapes, and Assorted Fruits have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00, First premium, to George W. Gage, Methuen, for Concord Grapes.

3.00, First premium, to E. P. Richardson, Lawrence, for Worden's Seedling.

3.00, First premium, to John O. Brien, Bradford, for Brighton.

3.00, First premium, to Charles P. Savory, Groveland, for Hartford Prolific.

3.00, First premium, to Rufus Goodwin, Haverhill, for Delaware.

3.00, First premium, to George W. Gage, Methuen, for Martha.

3.00, First premium, to E. P. Richardson, Lawrence, for Moore's Early.

1.00, Gratuity, to E. P. Richardson, Lawrence, for Concord.

.75, Gratuity, to A. O. Porter, Newburyport, for Concord.

.50, Gratuity, to Rufus Goodwin, Haverhill, for Concord.

.50, Gratuity, to John O. Brien, Bradford, for Concord.

1.00, Gratuity, to George W. Gage, Methuen, for Worden's Seedling.

.75, Gratuity, to Aaron Low, Essex, for Worden's Seedling.

1.50, Gratuity, to M. W. Bartlett, West Newbury, for Delaware.

.75, Gratuity, to Charles H. Ireland, Newburyport, for Delaware.

.75, Gratuity, to Isaac P. Noyes, Newburyport, for Delaware.

1.00, Gratuity, to George T. Walker, Amesbury, for Moore's Early.

.75, Gratuity, to Aaron Low, Essex, for Moore's Early.

.75, Gratuity, to James Fogg, Newburyport, for Adirondack.

.50, Gratuity, to Frank A. Whitman, Wenham, for Champion.

.50, Gratuity, to Charles H. Ireland, Newburyport, for Isabella.

.50, Gratuity, to F. W. Evans, Newburyport, for Clinton.

7.00, First Premium, to George W. Gage, Methuen, for collection of Grapes.

6.00, First premium, to James W. Estes, Peabody, for Cold House Grapes.

4.00, Second premium, to Aaron Low, Essex, for Cold House Grapes.

2.00, First premium, to O. P. Townsend, Newburyport, for Seedling Peaches.

.50, Gratuity, to Edwin Bates, Lynn, for Lombard Plum.

.75, Gratuity, to Henry W. Wilson, Georgetown, for Lombard Plum.

.50, Gratuity, to Mrs. C. M. Webster, Haverhill, for Lombard Plum.

4.00, First premium, to A. J. Hubbard, Peabody, for basket of Assorted Fruits.

3.00, Second premium, to Mrs. A. M. Perkins, Newbury, for basket of Assorted Fruits.

1.00, Gratuity, to Isaac P. Noyes, Newburyport, for Quinces.

.50, Gratuity, to Mrs. C. M. Webster, Haverhill, for Quinces.

.75, Gratuity, to Joseph Ilsley, Newburyport, for Early Wilson Blackberries.

.50, Gratuity, to Lizzie Pearson, Newburyport, for Early Lawton Blackberries.

J. Henry Hill, George W. Chadwick, Wm. Huff,—*Committee.*

FLOWERS.

The Committee on Flowers have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$3.00, First premium, to Thomas Capers, Newburyport, for Foliage Plants.

2.00, Second premium, to Mrs. T. W. Goodwin, Newburyport, for Foliage Plants.

3.00, First premium, to Mrs. T. W. Goodwin, Newburyport, for Parlor Bouquets.

2.00, First premium, to Mrs. J. H. Hill, Amesbury, for Hand Bouquets.

3.00, First premium, to Wm. Merrill, West Newbury, for best Cut Flowers.

2.00, Second premium, to Mrs. T. W. Goodwin, Newburyport, for Cut Flowers.

1.00, First premium, to T. Capers, Newburyport, for 4 Ferns in Pots.

1.00, First premium, to T. Capers, Newburyport, for 4 Coleus.

1.00, First premium, to Mrs. T. W. Goodwin, Newburyport, for Begonia in Pot.

1.00, First premium, to Green Dodge, Newburyport, for Out door Fern.

1.00, First premium, to Mrs. N. E. Ladd, Groveland, for Bouquet Garden Flowers.

1.00, First premium, to Mrs. J. H. Hill, Amesbury, for Basket Garden Flowers.

1.00, First premium, to Miss M. Israel, West Newbury, for 12 Garden Dahlias.

1.00, First premium, to Miss M. Israel, West Newbury, for 12 Bouquet Dahlias.

1.00, First premium, to Mrs. A. B. Forbes, Byfield, for 12 Single Dahlias.

1.00, First premium, to Mrs. A. Low, Essex, for 24 Asters.
1.00, First premium, to Mrs. A. Low, Essex, for 12 Gladiolus.
1.00, First premium, to Mrs. D. R. Parker, Groveland, for 24 Verbenas.
1.00, First premium, to L. W. Smith, West Newbury, for 24 D. Zinnias.
1.00, First premium, to Mrs. A. B. Forbes, Byfield, for 24 F. & A. Marigolds.
1.00, First premium, to Fred Hibbs, Amesbury, for 12 Calendulas.
1.00, First premium, to T. C. Thurlow, West Newbury, for 12 Japan Lilies.
1.00, First premium, to Mrs. T. W. Goodwin, N. Port, for 12 Geraniums.
1.00, First premium, to T. C. Thurlow, W. Newbury, for 12 Garden Phlox.
1.00, First premium, to Mrs. W. Woodman, N. Port, for Drummond Phlox.
1.00, First premium, to W. H. Bailey, N. Port, for Mourning Bride.
1.00, First premium, to Miss E. M. Perley, Danvers, for Nasturtiums.
1.00, First premium, to W. P. Lunt, Newburyport, for Pansies.
1.00, First premium, to Mrs. T. W. Goodwin, Newburyport, for Roses.
1.00, First premium, to W. Merrill, W. Newbury, for Snap Dragon.
5.00, First premium, to Mrs. W. S. Horner, Georgetown, for Named Native Plants.
3.00, Second premium, to Eben True, Salisbury, for Named Native plants.
2.00, First premium, to Shirly Ladd, Groveland, for Best Flowers and Autumn Leaves.

.50, Gratuity, to Miss Laura Dow, E. Salisbury, for Floral Design.

1.00, Gratuity, to J. J. McCarty, N. Port, for Zinnias.

.50, Gratuity, to Miss C. J. Fox, N. Port, for Nasturtiums.

1.00, Gratuity, to Miss S. J. Fellows, Ipswich, for Wild Flowers.

.50, Gratuity, to Miss A. H. Hale, Rowley, for Wild Flowers.

.75, Gratuity, to Misses E. & H. Ilsley, Newbury, for Wild Flowers Design.

.50, Gratuity, to Mrs. Aaron Low, Essex, for Flowers.

.50, Gratuity, to J. F. Mayo, Newburyport, for Boquet Dahlias.

.50, Gratuity, to Miss A. J. Green, Newbury, for Design.

1.50, Gratuity, to Fred Hibbs, Amesbury, for Collection.

1.00, Gratuity, to Miss C. A. Hale, Rowley, for Collection.

1.00, Gratuity, to W. H. Bailey, N. Port, for Collection.

.50, Gratuity, to Mrs. Chas. Perley, W. Boxford, for Collection.

.50, Gratuity, to Mrs. H. E. Bartlett, East Salisbury, for Collection.

1.50, Gratuity, to J. J. Kenniston, N. Port, for Pansies and Collection.

.50, Gratuity, to Mrs. P. R. Gould, Byfield, for Amyrillis.

.50, Gratuity, to Miss Lizzie Alley, Wenham, for Wild Flowers.

.50, Gratuity, to David Mighill, Georgetown, for Wild Flowers.

T. C. Thurlow, Mrs. W. S. Horner,—*Committee.*

VEGETABLES.

The Committee on Vegetables have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00, First premium to David Warren, Swampscott, for Beets.

3.00, First premium, to Richard Jaques, W. Newbury, for Carrots.

3.00, First premium to T. K. Bartlett, Newburyport, for Mangold Wurtzel Turnips.

3.00, First premium, to Wm. Huff, Newburyport, for Purple Top.

3.00, First premium to Moses B. Abbott, Andover, for White Ruta Baga.

3.00, First premium, to Thomas G. Bradley, West Newbury, for Yellow Ruta Baga.

3.00, First premium, to Wm. Huff, Newburyport, for Parsnips.

3.00, First premium, to David Warren, Swampscott, for Danvers Onion.

3.00, First premium to M. F. Batchelder, Peabody, or Yellow Flat Onion.

3.00, First premium, to John H. George, Methuen, for Red Onion.

POTATOES.

3.00, First premium, to M. B. Chesley, Amesbury, for Early Rose.

3.00, First premium, to B. F. Huntington, Amesbury, for Beauty of Hebron.

3.00, First premium, to B. F. Huntington, Amesbury, for Clark's No. 1.

3.00, First premium, to B. F. Huntington, Amesbury, for Pearl of Savoy.

3.00, First premium, to B. F. Huntington, Amesbury, for Early Maine.

CABBAGE.

3.00, First premium, to S. F. Newman, Newbury, for Savoy.

3.00, First premium, to S. F. Newman, Newbury, for Fottler.

3.00, First premium, to David Warren, Swampscott, for Stone Mason.

3.00, First premium, to David Warren, Swampscott, for Red.

3.00, First premium, to M. F. Batchelder, Peabody, for Cauliflowers.

2.00, Second premium, to S. A. Adams, Merrimac, for Cauliflowers.

2.00, First premium, to L. W. Goldthwait, Danvers, for Celery.

5.00, First premium, to E. G. Nason, W. Newbury, for Corn.

3.00, Second premium, to C. K. Ordway & Son, W. Newbury, for Corn.

2.00, Third premium, to Silas Plummer, W. Newbury, for Corn.

3.00, First premium, to T. K. Bartlett, Newburyport, for late Sweet Corn.

3.00, First premium to T. K. Bartlett, Newburyport, for Pop Corn.

3.00, First premium, to Wm. Huff, Newburyport, for Marrow Squash.

3.00, First premium, to Isaac N. Lane, W. Newbury, for Turban Squash.

3.00, First premium, to David Warren, Swampscott, for Hubbard Squash.

3.00, First premium, to Danvers Hospital, Danvers, for Essex Hybrid Squash.

2.00, First premium, to M. F. Batchelder, Peabody, for Nutmeg Melon.

2.00, First premium; to M. F. Batchelder, Peabody, for Musk Melon.

2.00, First premium, to Wm. Huff, Newburyport, for Water Melon.

2.00, First premium, to Wm. W. Perkins, Newbury, for Casaba Melon.

TOMATOES.

3.00, First premium, to Chas. W. Wood, Newbury, for Livingston Favorite.

3.00, First premium, to Aaron Low, Essex, for Essex Hybrid.

3.00, First premium, to A. F. Lee, Beverly, for Livingston's perfection.

3.00, First premium, to Aaron Low, Essex, for Acme.

3.00, First premum. to Aaron Low, Essex, for best collection Tomatoes.

3.00, First premium, to Everett K. Day, Wenham, for Cranberries.

2.00, Second premium, to W. K. Cole, West Boxford, for do.

1.00, Third premium, to Edward Pearl, West Boxford, for do.

8.00, First premium, to Aaron Low, Essex, for Collection of Vegetables.

6.00, Second premium, to Robert Thornton, Salisbury, for do.

8.00, First premium, to Aaron Low, Essex, for Collection of Seeds.

1.00, Gratuity, to W. B. Foster, Beverly, for Pot Iron Pumpkin.

1.00, Gratuity, to Edwin Bates, Lynn, for Mammoth Squash.

1.00, Gratuity, to Ben. Perley Poore, West Newbury, for Sweet Potatoes.

1.00, Gratuity, to Thos. Sanders, Haverhill, for Bell Peppers.

1.00, Gratuity, to Aaron Low, Essex, for Ruby King Peppers.
1.00, Gratuity, to Chas. W. Mann, Methuen, for Leaming Corn.
1.00, Gratuity, to Herbert W. Fogg, Newburyport, for potatoes.
.50, Gratuity, to Edwin Bates, Lynn, for Mammoth Pumpkin.
1.00, Gratuity, to W. Burkes Little, Newbury, for four varieties of potatoes.
.50, Gratuity, to David Little, Newbury, for Pine Apple Squash.
.50, Gratuity, to Washington Adams, Newbury Old Town, for Mammoth Sunflower.
1.00, Gratuity, to Alfred Green, Newbury, for four kinds of Potatoes.
.50, Gratuity, to Aaron Low, Essex, for Bay State Squash, new.
.50, Gratuity, to Aaron Low, Essex, for Edmund's Blood Beet.
1.00, Gratuity, to N. T. Kimball, Bradford, for 2 Traces of Corn.
2.00, Gratuity, to S. Longfellow, Groveland, for Trace of Corn.
1.00, Gratuity, to Rufus Goodwin, Haverhill, for peck of Danvers Onions.
1.00, Gratuity, to B. F. Huntington, Amesbury, for 12 varieties of Potatoes.
1.00, Gratuity, to Wm. B. Foster, Beverly, for Collection of Pumpkins.
.50, Gratuity, to Wm. Huff, Newburyport, for Citrons.
.50, Gratuity, to F. Hibbs, Amesbury, for Wonder of Italy Tomato.
1.00, Gratuity, to J. N. Rolfe, Newbury, for Danvers Onions.

2.00, Gratuity, to Wm. A. Walton, Ipswich, for Pop Corn.
.50, Gratuity to Moses B. Abbott, Andover, for Rose China Radish.

The committee on vegetables found a large exhibition, of fine quality, fully sustaining the reputation of Essex County farmers in this direction. Owing to the fact that many of the vegetables came in at a late hour, together with a short supply of help, they were not arranged as they should be, and as intended by the superintendent, the several exhibitions of the same kind in a lot by themselves, but were in a mixed condition, thus causing repeated traversing of the hall in comparison of different specimens of the same kind, as found in some cases at the extreme ends of the tables. In addition, the book of entries of contributors was not ready till about the time of admission of the public, thus making the examination a difficult task.

Mr. Foster of Beverly added much to the effect by a fine exhibition of mammoth pumpkins and squashes in variety. Mr. Huntington of Amesbury had a fine display of potatoes. Mr. Thomas Sanders of Haverhill exhibited a specially handsome plate of peppers. Mr. Aaron Low added much to the value and interest of the exhibition to the farmer in showing a new squash which he has named the "Bay State," and says, possesses qualities that commend it to the attention of the farmer. He also exhibited a new beet which he calls the "Edmand's Early Blood," and claims is a valuable acquisition to the beet family. In fact many specimens reflected credit on the exhibitors. Thus in the exhibition and comparison of truly fine specimens, and of new varieties, the farmer is stimulated and educated to a higher standard of culture, and the public are furnished with a better quality of vegetables for which there is an ever increasing demand, resulting in a corre-

sponding increase of profit to the farmer. After a careful comparison the committed awarded the above premiums and gratuities.

WM. B. CARLTON, *for the Committee.*

COUNTERPANES, CARPETINGS AND RUGS.

The Committee on Counterpanes, Carpetings and Rugs have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$4.00, First premium, to Mrs. F. L. Packard, of Merrimac, for Silk Quilt.

2.00, Second premium, to Mrs. Joseph P. Folsom, Georgetown, for Silk Quilt.

3.00, First premium, to Mrs. Elbridge Tenney, Newbury, for Braided Rug.

2.00, Second premium, to Mrs. Cyrus K. Ordway, West Newbury, for Drawn Rug.

1.00, Gratuity, to Mrs. B. F. Veasie, Haverhill, for Silk Quilt.

1.00, Gratuity, to Sarah A. W. Dodge, Newburyport, for Silk Quilt.

1.00, Gratuity, to Mrs. A. Whitter, Newburyport, for Woolen Quilt.

1.00, Gratuity, to Mrs. H. M. Danforth, Newburyport, for Silk Quilt.

1.00, Gratuity to Mrs. John L. Dodge, Newburyport, for Silk Quilt.

1.00, Gratuity, to Mrs. F. D. Adams, Newburyport, for Silk Quilt.

1.00, Gratuity, to Mrs. Harriet Welch, Newburyport, for Silk Quilt.

1.00, Gratuity, to Mrs. L. C. French, Newburyport, for Silk Quilt.

1.00, Gratuity, to S. M. Allen, Newburyport, for Calico Quilt.
1.00, Gratuity, to Mrs. M. F. Shaw, Newburyport, for Knit Quilt.
1.00, Gratuity, to Mrs. Johanna T. Ross, Newburyport, for Quilt.
1.00, Gratuity. to Mrs. E. A. Lane, Newburyport, for Knit Quilt.
1.00, Gratuity, to Mrs. Harriet W. Roberts, Newburyport, for Rug.
1.00, Gratuity to Mrs. A. W. Stanley, Newburyport, for Rug.
1.00, Gratuity, to Mrs. Mary A. Bartlett, Newburyport, for Braided Rug.
1.00, Gratuity, to Nelson Bodwell, Andover, for Rug drawn in.
1.00, Gratuity, to Mrs. B. Doherty, Danvers, for Braided Mat.
1.00, Gratuity, to Mrs. Chas. H. Tucker, Amesbury, for Rug, Lamb's Tongue.
1.00, Gratuity, to Mrs. S. J. Janeson, Groveland, for Mat Knit and Braided.
1.00, Gratuity, to Mrs. D. R. Parker, Groveland, for Mat Braided.
.50, Gratuity, to Mrs. A. M. Poore, West Newbury, for Rug.
.50, Gratuity, to Mrs. A. Whittier, Newburyport, for Rug.
.50, Gratuity, to L. C. Ireland, Newburyport, for Worsted Mat.
.50, Gratuity, to Mrs. S. M. Gale, Newburyport, for Knit Rug.
.50, Gratuity, to Miss H. W. How, Newburyport, for Woven Rug.
.50, Gratuity, to Alice A. Pettingill, Newburyport, for Knit Rug.

.50, Gratuity, to Miss Ella A. Pettigrew, Newburyport, for Kid Rug.

.50, Gratuity, to Mrs. E. P. Pride, Newburyport, for Knit Rug.

.50, Gratuity, to Miss A. H. Welch, Newburyport for Knit Rug.

Andrew Nichols, Mrs. J. Henry Hill, Mrs. E. P. Pride.—*Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

The Committee on Articles manufactured from Leather have attended to their duty, and respectfully report to the Secretary that they have made the following awards :

$5.00, First premium, to F. A. Siloway, Newburyport, for Carryall harness.

5.00, First premium, to F. A. Siloway, Newburyport, for Light Harness.

1.00, Gratuity, to C. G. Baker, Georgetown, for Shoes.

5.00, Gratuity, to Poor & Littlefield, Peabody, for Colored Goat Skins.

The Committee are disappointed at so small an exhibit in this department, only one pair of shoes having been entered for premium or gratuity.

Charles H. Gould, Wm. H. Little, Daniel E. Moulton.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee on Manufactures and General Merchandise have attended to their duty, and respectfully report to the Secretary that they have made the following awards :—

$3.00, Gratuity, with Society's Diploma, to Wm. P. Jones, Newburyport, for Sterling Silver Ware.

1.00, Gratuity, to Merrimac Manufacturing Co., Newburyport, for Cake Ornaments.

Your Committee found but 16 entries in this department, most of them trade exhibits; one exhibit was a case of varieties of files which obtained for its exhibitor at Haverhill the "Diploma" of this Society for its special merits. The case of "Sterling Silver Ware" manufactured in Newburyport by William P. Jones, was awarded the highest award, a diploma, for its fine workmanship and beauty of designs, making it an object of special merit.

We also recommend as worthy of commendation "Briggs Piano Chair" exhibited by Noyes Bros., as filling a want long needed by the public, and think an article of a lower price for use by ladies using stitching machines would meet with ready sale.

Respectfully yours,

WILLIAM HILTON, *for the Committee.*

FANCY WORKS AND WORKS OF ART.

The Committee on Fancy Work and Works of Art have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00, Gratuity, to Mrs. P. S. Hulbert, Newburyport, for Crayon Drawing.

3.00, Gratuity, to Mrs. J. W. Kirkpatric, Newburyport. for Wild Roses in Oil,

2.00, Gratuity, to Mrs. J. W. Kirkpatric, Newburyport, for Thistles in Oil.

.50, Gratuity, to Annie Marsh, Newburyport, for Panels in oil.

2.00, Gratuity, to Sarah Purington, Amesbury, for Oil Painting.

.50, Gratuity to Abbie Rolfe, Newburyport, for Oil Painting.

1.00, Gratuity, to Mrs. A. P. Newhall, Lynn, for Fancy Pen Marking.

.50, Gratuity, to Minnie Toppan, Newburyport, for Morning Glories.

.50, Gratuity, to S. W. Stone, Newburyport, for Tiles in Fireplace.

1.00, Gratuity, to Hattie Tenny, Georgetown, for Picture.

.50, Gratuity, to M. E. Couch, Newburyport, for Water Color.

.50, Gratuity, to Mrs. J. Brookings, Newburyport, for Wreck, Rye Beach.

.50, Gratuity, to Miss Nellie Lunt, Newbury, for Oil.

1.50, Gratuity, to Helen A. Pike, Newbury, for Painted China.

1.00, Gratuity, to Florence Little, Newbury, for Painted China.

.75, Gratuity, to Mary Nichols, Merrimac, for Sofa Pillow.

.50, Gratuity, to Emma Stephenson, Newburyport, for Sofa Pillow.

.50, Gratuity, to Mrs. W. A. Hatch, Newburyport, for Painted Banner.

.50, Gratuity, to Ida M. Jaques, Newburyport, for Kensington Painting.

.50, Gratuity, to Sadie Torry, Newburyport, for Table Scarf.

.50, Gratuity, to Nettie Bridges, Newburyport, for Tidy.

.75, Gratuity, to Miss De Ford, Newburyport, for Easel Scarf.

.50, Gratuity, to Mrs. Sarah Carter, Newburyport, for Sofa Pillow.

.50, Gratuity, to E. L. Martin, Newburyport, for Table Scarf.

.50, Gratuity, to Mrs. Wm. Haskell, Merrimac, for Table Scarf.

.50, Gratuity, to C. M. Pritchard, Newburyport, for Lace Collar.

.50 Gratuity, to Mrs. G. Gale, Newburyport, for Table Scarf.

.50, Gratuity, to Mrs. E. Johnson, Newburyport, for pair Hose.

1.00, Gratuity, to G. D. Knight, Newburyport, for Sorrento Work.

.50, Gratuity, to F. A. Keyser, Newburyport, for Sofa Pillow.

2.00, Gratuity, to Mrs. J. P. Folsom, Georgetown, for Afghan.

1.00, Gratuity, to Mrs. N. W. Nichols, Groveland, for Afghan.

1.00, Gratuity, to Mrs. H. A. Phillips, East Salisbury, for Afghan.

1.00, Gratuity, to Gertrude W. Sargent, Merrimac, for Afghan.

.75, Gratuity, to Tilly Bailey, Newburyport, for Toilet Set.

.50, Gratuity, Lizzie Ireland, Newburyport, for Painted Lambrequin.

.50, Gratuity, to Mrs. G. Chace, Georgetown, for Lace Dress.

.50, Gratuity, to Mrs. Somerby Noyes, West Newbury, for Hand Knit Edging.

1.00, Gratuity, to Mary Shattuck, Newburyport, for Afghan.

.50, Gratuity, to Miss Dora Ballou, Newburyport, for Lamp Screen.

.50, Gratuity, to Mrs. J. M. Culser, Newburyport, for Door Banner.

.50, Gratuity, to Miss Alice Toppan, Newburyport, for Fish Scale Jewelry.

1.00, Gratuity, to Miss A. Haskell, Newburyport, for Piano Cover.

.50, Gratuity, to Mrs. G. Austin, Newburyport, for Tidy.

.50, Gratuity, to Mrs. Harriet Roberts, Newburyport, for Paper Flowers and Vase.

.50, Gratuity, to Miss M. J. Ingraham, Newburyport, for Table.

1.00, Gratuity, to Mrs. E. J. Reed, Newburyport, for Beaded Jersey.

1.00, Gratuity, to Mrs. Oliver Jones, Newburyport, for Portiere.

.50, Gratuity, to Miss J. S. Smith, Newburyport, for Button Picture.

.50, Gratuity, to Mrs. Taylor, Newbury, for Sofa Pillow.

.50, Gratuity, to Mary C. Bailey, Newburyport, for Parlor Bag.

.50, Gratuity, to Miss Kate Burke, Newburyport, for Table Cover.

.50, Gratuity, to Mrs. J. V. Felker, Newburyport, for Door Banner.

.50, Gratuity, to Tilly Bailey, Newburyport, for Key Board.

.50, Gratuity, to Abbie Little, Newbury, for Thermometer Panel.

.50, Gratuity, to Anna J. Moyniham, Newburyport, for Piano Scarf.

.50, Gratuity, to Mrs. Moody Kimball, Newburyport, for Darned Lace.

.50, Gratuity, to John S. Crosby, Methuen, for Sorrento Work.

1.00, Gratuity, to George H. Bragg, Newburyport, for Music Box.

.50, Gratuity, to Mina B. French, East Salisbury, for Table Cover.

.50, Gratuity, to Sarah Bogardas, Newburyport, for Table Cloth.

.75, Gratuity, to Mrs. E. Binley, Newburyport, for Vase Milk Weed Plumes.

.50, Gratuity, to Mrs. Louis A. Currier, Newburyport, for Worsted Wreath.

.50, Gratuity, to Mrs. S. C. Moulton, Newburyport, for Banner.

.50, Gratuity, to Mrs. James Carr, West Newbury, for Embd. on Silk.

The oil paintings of Dr. Ernest Noyes of Boston and Miss Charlotte Perkins of Seabrook, N. H., are considered worthy of "Honorable mention," but as they were not of the county could not be given gratuities by the committee. The canvass pin of Mrs. Grenville was not brought in season to enter, as the books were closed, which we regret.

Mrs. N. E. Ladd, Mrs. Charles Perley, Mrs. M. P. Perley, Mrs. W. L. Boudoin, Miss A. R. Rich —*Committee.*

WORK OF CHILDREN UNDER TWELVE YEARS OF AGE.

The Committee on Children's Work (under 12 years of age), have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00, First premium, to Hollis B. Scates, Georgetown, for Crayon Pictures.

2.00, Second premium, to Agnes Mannix, Newburyport, for Lace Dress.

1.00, Gratuity, to Grace E. Rogers, Byfield, for Silk Quilt.

1.00, Gratuity, to Mary McQuade, Newburyport, for Carriage Robe.

1.00, Gratuity, to Annie H. Knight, Newbury, for Kensington Paintings.

1.00, Gratuity, to Fannie M. Merrill, Newburyport, for Calico Quilt.
1.00, Gratuity, to Lillian Newman, Newbury, for Kensington Painting.
.50, Gratuity, to Gertrude Wilkins, Middleton, for Patchwork.
.50, Gratuity, to Agnes Hale, Rowley, for Sofa Pillow.
.50, Gratuity, to Lottie M. Hardy, Rowley, for Knit Stockings.
.50, Gratuity, to Ida Poor, Georgetown, for Knit Rug.
.50, Gratuity, to Jessie K. Dodge, Rowley, for Calico Quilt.
.50, Gratuity, to Willie Swasey, Newburyport, for Button Box.
.50, Gratuity, to Marion DeJean, Newburyport, for Table Scarf.
.50, Gratuity, to Nellie Lunt, Newbury, for Painting.
.50, Gratuity, to Lulie Frost, Newburyport, for Tidy.
.50, Gratuity, to Amy Cline, Newbury, for Fancy Tidy.
1.00, Gratuity, to Gertrude Carlton, Rowley, for Toilet Set.

Helen A. Pike, Elizabeth A. Noyes, Mrs. Geo. H. Plumer,— *Committee.*

IMPROVING WET MEADOW AND SWAMP LANDS.

The Committee on "Improving wet Meadow and Swamp Land," report that the only entry for premium was made by Mr. John H. George, of Methuen, whose statement is herewith submitted.

The Committee recommend the award of the First Premium of Fifteen Dollars, to Mr. George.

The land which was entered for premium, is a section of a large peat meadow, such as is found in almost every

town. The peat is from two to fifteen feet or more in depth, of good quality to burn,—if that statement can ever be truthfully made concerning peat. The statement of Mr. George shows a remarkable profit (partly owing to some fortunate circumstances), much more than can usually be expected from such investments, but the business was evidently conducted with skill and economy, and his methods might well be followed by others. There is a great deal of similar land in the County, now nearly worthless, which might be made the most profitable of any.

We think the value of such land is generally under-rated. Many have tried the experiment of reclaiming a piece of wet meadow, and have found that the land did not yield the good results expected, and so have concluded that the cultivation of low ground does not pay. But in nine cases out of ten, we believe such failures are due to bad management, or rather want of management. Such land, if treated as upland usually is, will always prove a failure. It does not need *more* expense and labor, but needs fertilizing and care, more frequently and constantly.

A common way of managing upland, is to plough and cultivate with hoed crops one or two years, apply one or two coats of manure, and then lay down to grass, either with or without a crop of grain; and then cut the grass for several years without doing anything more. Meadow land, especially peat land, requires very different treatment. It requires frequent applications of manure, but the quantity at each application may be light. Probably such land should be manured every year while cultivated, and if laid down to grass should be topdressed as often as once in two years. Then too the drains must be carefully kept open, so that the water may readily run off. Land should be drained, not only so that all the water may be carried off, but it should be carried *quickly*, after a heavy rain; and the experience of every farmer is that drains and ditches soon

fill partially with weeds and grass, that obstruct the ready flow of water; and hence they require constant looking after. But we believe that such care pays, and that, if properly managed, these low lands can be made the most productive and profitable of any.

Almost any crop can be raised on well drained peat land, if lightly gravelled, and manured properly. Mr. George raised one of the finest crops of onions we ever saw, both in quality and quantity, on a piece of peat land adjoining that offered for premium. Such land is easily cultivated, and horses can be employed by using bog-shoes. We believe that farmers who have such land, capable of drainage, and reasonably near home, make a mistake, if they neglect it for the cultivation of their upland. We hope that applications for this premium will in the future be more frequent.

For the Committee,

JOS. S. HOWE—*Chairman.*

STATEMENT OF JOHN H. GEORGE.

To Essex Agricultural Society:—

Statement concerning a piece of swamp land comprising one acre entered for premium by John H. George of Methuen.

The piece which I offer for your inspection was bought by me the latter part of August, 1883. It was at the time covered with a heavy growth of maple wood and underbrush, in some places so thick that it was almost impossible to get through it. It joined a piece of land previously owned by me, so that drainage was a very easy matter. I was obliged to cut but about twelve rods of ditch to complete the draining of the whole piece, it having previously had a ditch across one side and one end, the other side extending to the upland. I first cut the ditch across the side. I then had men clean out the under brush by cutting it out by the roots and piling it.

Then procured a tackle and falls; began upon one side to fell the trees, which I did by hitching one end of the tackle to the top of the tree to be felled, the other end to one of the standing trees. I then cut off the roots in sight, and with a horse hitched to the tackle pulled the tree over. This I did until all the trees on the piece were lying flat. I then put the trees into cord-wood, piling and burning the brush as we went, and drawing off the wood. I had men follow on with bog-hoes turning over the land and removing the remaining roots. The stumps and roots were piled and burned clean, leaving the land in a condition to be planted.

In the spring of '84, it was furrowed with a plow, four cords of shaving manure applied in the drill, and planted with potatoes. They were hoed once during the season, dug in the fall; the proceeds being one hundred and fifty (150) bushels. Sold at 50 cts. per bushel. The crop was almost ruined with the frost, on the night of the 29th of May. After digging, I plowed the piece with one horse.

In the spring of '85, I applied four cords of manure to the acre, spread and harrowed it in, furrowed the land, applied 350 lbs. of Bay State Phosphate in the drill, planted it to potatoes. They were cultivated once, hoed with a horse hoe once, and dug. The product was 251 bushels. Sold on the piece, at 50 cts. per bushel.

Dr.

One acre of land to John H. George,	$100 00
To digging twelve rods of ditch 3x3,	6 00
" clearing underbrush, four days' work,	5 00
" Man and horse with tackle, two days,	6 00
" Six days' work, digging trees,	7 50
" Chopping 20 cords of wood,	18 00
" Bogging land, ten days,	12 50
" Burning brush and stumps,	1 50

To Furrowing land,	1 50
" Six bushels seed potatoes,	3 00
" Drawing four cords shaving manure, [a gift],	4 00
" Planting,	5 00
" Cultivating and hoeing,	4 00
" Digging,	6 00

CROP OF 1885.

To Plowing,	$3 00
" 4 cords of manure,	12 00
" Harrowing and furrowing,	1 50
" 350 lbs. Bay State phosphate,	7 50
" Seven bushels seed potatoes,	3 50
" Cutting and planting,	4 00
" Cultivating and horse hoeing,	3 00
" Digging,	6 00
" Interest and taxes on land,	14 00
	$234 50

CR.

By 14 cords of cleft wood, at $4.50,	$63 00
" 6 cords of trash wood, at $3.00,	18 00
" Logs,	23 00
" 150 bushels potatoes, crop of '84,	75 00
" 251 bushels potatoes, crop of '85,	125 50
" Present value of land,	200 00
	$504 50
	234 50
Balance,	$270 00

Respectfully Yours,

JOHN H. GEORGE, Methuen.

REPORT OF THE COMMITTEE ON PASTURE AND WASTE LANDS.

There was but one experiment offered, and that was made by Clement R. Hanson of Salem. It is the opinion of the committee that the experimenter has well earned the first premium of $15, offered by our Society, by the work he has done and the full and interesting statement he has made in regard to it.

It is also the opinion of the committee that this experiment is one of the most valuable we have any knowledge of, for this is probably the first time in the history of progressive agriculture, that "corn for the silo" has been used as a financial lever with which to lift and remove stones, stumps and bush roots from rough pasture land.

There are in our county, thousands of acres growing but little of either grass or wood, which can be put in good tillable condition with no more labor than Mr. Hanson put into his experiment. If these waste acres can be made to grow ensilage corn enough while being improved, to pay for the labor and the manure needed to make the improvement, the tillable area of Essex County will soon be very much extended, because that will be the most profitable work the owners of waste lands can do.

In connection with this experiment, Mr. Hanson has established to his own satisfaction the food value of ensilage as compared with that of good English hay, and his valuation of $6 per ton in the field is based upon good hay at $20 per ton in the barn. He thinks one ton of hay fed with three tons of ensilage will give better results than two tons of hay or six tons of ensilage fed separate, therefore by leaving his grass land to produce what hay it would, and going to his waste land to grow his corn, he has plenty of hay with which to increase the value of his corn, and he has plenty of corn with which to increase the value of his hay, thereby getting the best results from each, he can fairly place a high value upon each.

This experiment and Mr. Hanson's practice says to the farmers of Essex County, "Grow no less grass, but grow more corn." The most important part of this experiment is in establishing the fact that the productive capacity—or renting value—of land can be raised from the interest and taxes on a valuation of $10 or less per acre, to interest and taxes on a valuation of $100 or more per acre, and that ensilage corn can be made to more than pay the expense of the rise.

On this field of seven or eight acres, part of it planted three years and part two, Mr. Hanson's statement shows in addition to the increased value of the land, a profit of $299. Now if we look at this experiment as designed to put this land in tillable condition and nothing more, depending mainly upon ensilage corn as the motive power, the account would close with the drawing of the stones in the fall of 1884. The land was then in condition to plow with horses and prepare for sowing grass seed. This work, $96, and $105 for manure, $25 for grass seed, and $1.50 for sowing grass seed, should be charged to the future grass crop, rather than to the improvement account. This way of making up the account gives a profit of $552.50 in addition to the increased value of the land.

ANSEL W. PUTNAM, *for the Committee.*

ASYLUM STATION.

STATEMENT OF CLEMENT R. HANSON.

SALEM, June 5, 1885.

Gentlemen:

This is a statement concerning a certain piece of land herein described which I wish to enter for the premium offered by the Essex Agricultural Society, for the *Improvement of Waste Land.*

The piece of land above mentioned is situated on the Westerly side of Highland Avenue, Salem, on the farm of

Horace C. Ware, Esq., between the residence of Mr. Ware and the house known as the "Old Toll House."

In the spring of 1882, Mr. Ware decided to build a "Silo" and the mowing fields on the farm being mostly in very good condition and bearing a good burden of grass, I very much regretted disturbing them, especially for what seemed to me quite an experiment, having very little personal knowledge about Silos or Ensilage. I therefore concluded to commence on the piece of land above located, to renovate and reclaim it, at the same time raising the most of my ensilage corn thereon.

This piece of land, though quite elevated, is naturally, the most of it, quite moist, of a yellowish loam, *very stony*, the ledge protruding from the surface in several places. It furnished very little feed as a pasture, a part of it being almost covered with alders, wild rose and barberry bushes; the other part either mossed over, or growing that beautiful and thrifty plant so little relished by cows and yet so largely produced by most pastures in this vicinity—the wood-wax.

We commenced in the Spring above referred to, by digging what stones were to be seen that two men could pry out with crow-bars, going over some three or four acres, then drawing the stones off on drag and carts, depositing them where I proposed, at most convenient times, to lay them into a wall (which has since been done). I then commenced breaking the land, using one of T. B. Hussey's largest plows, drawn by four oxen, employing four men—one to drive the team, two to attend to the plow, as it was so stony it required the weight of one man to keep the plow in the ground at all, also the plow being so heavy it required two men to take it back when backing up, which was about half the time: the fourth man followed after the plow, turning any sod that might fall back, and throwing the loose stones out of the furrow.

After plowing, applied about five cords of barn-yard manure per acre, broadcast, harrowing with a common spike tooth harrow; planting about the 20th of June, Southern white corn, in rows or drills, about three feet apart, seed in drills from two to six inches distant, dropping and covering done by hand.

Nothing more was done to it until about the first of August, when we went through, cutting up the weeds which were not very numerous.

Although it was a very dry season, the corn was affected but little thereby, except within a few feet of the ledges; and grew far beyond my expectations, some stalks reaching 12 to 14 feet in height. Cut the corn the first days of October; after it was harvested, drew off such stones as the plow and harrow had brought to the surface, and digging out the large ones that the plow would not throw out, also digging out the surface rocks on the balance of the field, drawing the large ones off on the drag, in the Winter when the first snows came, and early in the Spring; one pair of oxen moving a very large boulder with comparative ease at those times.

In the Spring of 1883, broke up the remainder of the field in the same way as that of the previous spring, applying manure in same manner and quantity on that newly broken as described above, planting about two acres of the corn stubble to potatoes, with no manure; balance of field planted to corn as above described. The potatoes were hoed once, going through them with double mould board plow; they grew to good size and of excellent quality. The corn was hoed as above stated, without cultivating, and grew remarkably well.

In Spring of 1884, plowed again, applying about six cords of manure per acre where last broken, planting to corn and potatoes as before, using Stockbridge's manure under the potatoes where there had been no manure since

1882. Hoed the potatoes as the year previous, going through the corn with cultivator, and hoeing by hand where most weedy.

After harvesting, went over the field again, picking off the loose stones, then plowed with a pair of horses, and applied six cords of barn manure per acre, where potatoes had been planted which had no manure in the spring, except the Stockbridge, then went over it again with the teams, taking off all the stones, digging those that were fast and would be in the way of the machine, also removing corn stubble, roots, etc., then driving over the field with a drag made for the purpose of pulverizing any clods and smoothing the surface.

This Spring bought two bags of "Timothy," one of "Northern Red Clover" and one of "Red Top" seed, and about the first of April went over the field, sowing about one-half of the seed, then went over it again, crossing the first sowing in order to get it as even as possible. After going over it the second time had about a half bag of mixed seed left.

EXPENSES.

1882.—3 men, six days, digging stones,		$22.50
	Breaking land,	82.50
	Harrowing,	9.00
	Manure,	140.00
	Hoeing,	10.00
	Fall work on stones,	20.00
1883.—Drawing stones and Plowing,		225.00
	Harrowing,	15.00
	Manure,	210.00
	Hoeing,	25.00
1884.—Plowing and harrowing,		65.00
	Manure,	140.00
	Cultivating and hoeing,	35.00

Fall.—Drawing stones,		85.00
	Plowing, harrowing and smoothing,	96.00
	Manure,	105.00
	Seed potatoes,	26.00
	Seed corn,	13.50
1885.—Seed Grass,		25.00
	Sowing seed,	1.50
		$1351.00

INCOME.

1882.—Corn in field, 60 tons at $6,		$360 00
1883.—Corn in field, 85 tons at $6,		510 00
	Potatoes in field, 400 bushels at 40 cts.,	160 00
1884.—Potatoes in field, 300 bushels at 40 cts.,		120 00
	Sweet Corn,	50 00
	Ensilage corn in field, 75 tons at $6,	450 00
		$1650 00
		1351 00
	Balance in favor of Field,	$299 00

Respectfully,

CLEMENT R. HANSON.

REPORT OF COMMITTEE ON GRAIN CROPS.

But six entries have been made during the past season, three on corn and one each on rye, wheat and beans.

The rye crop entered by Mr Richard Newell of West Newbury was excellent, yielding, as his statement shows, some forty bushels per acre, in marked contrast with the average yield of the state, which is under 12 bushels, showing conclusively that rye, like all other crops, will respond to good treatment and a generous supply of plant food.

Although it is commonly supposed that New England cannot grow the grains in competition with the West, yet Mr. Newell makes a good showing with his crop, and evidently believes there is money in raising rye in Essex County. It will be noticed that Mr. Newell cut his rye with a self reaper and binder, which he says did good work, cutting and binding one and one-half acres in two hours time. This is deserving of particular mention, for if we would raise grain in the East with profit we must adopt Western methods of growing them.

Our next visit was to the farm of Mr. William Little of Newbury, who had entered a very fine piece of wheat, but as there was little over half an acre we could not award it a premium.

Charles Woods of Newbury entered for the consideration of your committee seven-eighths of an acre of red kidney beans, the cultivation of which, like everything that Mr. Woods has to do with, was done thoroughly, not a weed being allowed to mature seed or hardly to sprout before being destroyed. The principal point to consider in his statement is the small cost of growing the crop; and also the high price per bushel ($2.25 to $2.40), making a large balance on the right side of the account.

Three entries were made on corn, namely, Oliver P. Kilham of West Boxford, Joseph H. Lunt of Newbury, and James J. H. Gregory of Middleton. Our first visit was to the field of Mr. Lunt's, where we found a very fine piece of Longfellow corn just ready for topping. Mr. Lunt, although a young man and at present a student at Dummer Academy, finds time to raise large crops on the farm, hay and apples evidently taking the lead.

Mr. Kilham's crop at Boxford was next examined and pronounced A 1, the ears setting heavily and well filled out at the point, while at the time of our visit, Oct. 1st, the crop was nearly matured enough to husk.

Our next visit was to the farm of Mr. Gregory at Middleton, where we found Mr. Gregory in the midst of his harvest, and such a harvest! Onions and cabbage to be measured only by the acre, and other crops in abundance, all showing that the manager well understood his business. We must confess that here we passed one of the most profitable days of our life, and only regret that our time was limited, as a day or two could be passed with Mr. G. with much profit. The corn crop is one of the most profitable crops that can be grown by the average New England farmer, as he always has a market for it at home, while in the stocks he can raise more fodder per acre than if it were in grass, thereby giving a double crop on the same ground. While the corn crop of the country is immense, 2000 million bushels, enough to load ten trains of cars reaching from Boston to San Francisco; yet there is little reason to believe but what corn can be grown to a profit in the East if we would adopt Western methods, in part at least, of cultivation. While even of more importance is the necessity of growing large crops, as the cost of growing 75 bushels per acre is little more than that of 36 bushels, the average yield of the state in 1875. Here we see the profit of large crops, still your committee do not believe in large crops as often reported, and are of the opinion that 100 bushels to the acre is very seldom raised in this state. Mr. Gregory for instance estimates his corn at 75 lbs. of ears to the bushel of shelled corn, with 169 baskets weighing $44\frac{3}{4}$ lbs. each to the acre giving a yield of 101 bushels per acre. This, in the estimate of your committee is too large: premiums being awarded only on crops in a merchantable condition, and we are confident that a large allowance should be made for loss in drying. We have therefore adapted the rule of two baskets of ears making one of shelled corn; by this rule we find that Mr. Killam's crop, $94\frac{1}{4}$ bushels, Mr. Lunt's 84 3-8 bushels, and

Mr. Gregory's, 82¼ bushels to the acre. This in our opinion is not far from correct, yet that no mistake may be made we have requested each of the competitors to take a basket of their corn and keep by itself until January, and note both the amount of shrinkage and also how many pounds it will shell out, as this is the only sure method of getting at the correct yield per acre.

Your Committee would report the following awards:

$10, First premium, to Richard Newell of West Newbury, for Rye.

10, First premium, to Charles W. Woods of Newbury, for Beans.

10, First premium, to Oliver P. Killam of Boxford, for Corn.

5, Second premium, to Joseph H. Lunt of Newbury, for Corn.

All of which is respectfully submitted,

John Q. Evans, Arthur S. Plumer, B. F. Huntington, C. W. Woods, James P. King.—*Committee.*

STATEMENT OF RICHARD NEWELL, OF WEST NEWBURY.

The Crop of Rye which I enter for premium, was grown on land which was plowed in the fall of '83; manured during the winter following, about seven cords per acre, spread broadcast; harrowed in well in the spring of '84, and planted to potatoes the latter part of April. The potatoes were thoroughly cultivated, and an excellent crop produced.

Seeded down to Rye, Sept. 16, '84; using two bushels of seed and two bags of Phosphate to give it a start.

Early in April, I harrowed over the ground both ways, with a tooth harrow, and sowed grass seed, which I found on harvesting the Rye, had got a good catch.

I was very fortunate in securing the use of the Self Reaper and Binder from the City Farm, city of Haverhill, which, with a good team and a very efficient man to run

the machine, did the work of reaping and binding in a most satisfactory manner, in about two hours' time. Stooked the rye and left it in the field till Aug. 8th, when I weighed and hauled it into the barn. Weight, 8700 pounds.

Finished thrashing and winnowing Sept. 9th. Weighed the grain: weight, 3540 pounds, or 63 bushels and 12 pounds. Sold the crop for seventy-three cents per bushel. Sold $2\frac{1}{4}$ tons of straw, for $19 per ton, and have 1-4 ton on hand.

I certify that I measured the land that the above crop grew upon, and that it contained 250 sq. rods and no more.

RICHARD NEWELL.

Account with Rye Crop:

DR.	
Preparing land,	$5 00
Phosphate,	4 00
Seed, 2 bushels,	1 60
Reaping and stooking,	11 50
Housing and weighing,	4 00
Thrashing and winnowing,	8 00
Rent of land,	9 00
	$43 10
CR.	
63 1-5 bushels rye, at 73 cents,	$46 14
$2\frac{1}{2}$ tons straw, at $19,	47 50
	$93 64
Cost,	43 10
Profit,	$50 54

Respectfully submitted,

RICHARD NEWELL.

STATEMENT OF CHARLES W. WOODS.

The crop of beans which I enter for premium was raised on 140 rods or $\frac{7}{8}$ of an acre of ground. The land is light loam and planted in 1884 to potatoes, using a good dressing of stable manure, but failing to get a crop owing to drouth; no manure was used this year, thinking the manure must be left in the ground. The ground was plowed and planted with red kidney beans, using $2\frac{1}{2}$ bushels seed; June 19, the ground was furrowed the same as if for potatoes; the seed was strewn along in the rows by hand and covered by dragging a dung puller lengthwise the furrows as fast as a man could walk, taking but half a day for man and horse to do the whole planting. They were cultivated with the Hussey cultivator and hoed the first time July 13, the hoeing being done nearly as fast as a man could walk. July 28 the same cultivator was run through them, using the wings, which did all the hoeing. No other labor was done on them until harvested, except to walk through them and pull out a few large weeds in the rows. They were harvested Nov. 3d, yielding 25 bush. or at the rate of 28 bush to the acre.

Cost of crop as follows:

Plowing and planting,	$3 50
$2\frac{1}{2}$ bush. seed,	5 00
Cultivating twice,	3 00
Hoeing and pulling weeds,	4 00
Harvesting, thrashing and winnowing,	6 00
	$21 50

NEWBURY, Nov. 5, 1885.

This certifies that I have measured a piece of land for C. W. Woods containing 140 rods on which was grown 25 bush. of red kidney beans.

JERE. ALLEN.

STATEMENT OF OLIVER P. KILLAM.

West Boxford, Oct. 29, 1885.

I have entered for the Society's premium on Corn, my field corn which consists of an early eight rowed variety.

Statement concerning a crop of corn raised by O. P. Killam of the Town of Boxford, in 1885:

The crop of 1883 was English hay, one ton to the acre. No manure was used. The crop of 1884, the same, about fifteen hundred weight to the acre. No manure was used. The soil dark loam, very deep; plowed once eight inches deep. Amount of manure, thirty bushels to a load, twenty-four to the acre. Over half of the manure was spread broadcast and plowed under, the other half spread and harrowed in after it was plowed. Cost of plowing and harrowing, eight dollars. Value of manure on the ground, two dollars per load. Planted, from the 20th to 24th of May. I used one small spoonful of Ames' Phosphate in each hill, to give it a start. Seed, eight rowed early yellow corn; one peck of corn was used to the acre. Cost of seed and planting, six dollars. Cultivated three times with a steel tooth cultivator. Cost of cultivating and weeding, seven dollars. Corn cut and stooked the second week in September. Cost of cutting and stooking and getting in and husking, sixteen dollars. I weighed four bushels at different times, averaging forty-four pounds to the bushel. Amount of corn on the acre, one hundred eighty-eight and one-half bushels. I had a nice lot of stover, I think from four to six tons to the acre.

Oliver P. Killam, *Competitor.*

Essex, ss.

Personally appeared the above named Oliver P. Killam and made oath that the above statement by him subscribed is true, this thirty-first day of October, A. D. 1885.

Before me,

Edward E. Pearl, *Justice of the Peace.*

West Boxford, Oct. 29, 1885.

This may certify that I measured one acre of corn for Oliver P. Killam.

Sam'l E. Merrill.

Essex, ss.

Personally appeared the above named Samuel E. Merrill and made oath that the above statement by him subscribed is true, this thirty-first day of October, A. D. 1885.

Before me,

Edward E. Pearl, *Justice of the Peace.*

STATEMENT OF JOSEPH H. LUNT.

Essex Agricultural Society:

Statement of a crop of corn raised by Joseph H. Lunt of Newbury, 1885.

The land was in grass in 1883 and 1884 and had no dressing applied. In the fall of 1884, it was plowed five or six inches deep, and again in the spring of 1885 two or three inches deep. The soil is sandy. Twelve or thirteen loads of dressing from the barn cellar was spread upon it and harrowed in with a wheel harrow. Two bags of superphosphate of 400 lbs. each were put in the hills, costing $5.60. It was planted in May with one and one-half pecks of Longfellow corn, five or six kernels in a hill, which cost at the rate of $2 per bushel. The plowing was done in one day with a pair of horses and yoke of cattle. Three men worked one day planting, fertilizing and drilling. The rows were three feet apart. The crop was cultivated four times. The crop is not yet harvested except the six rows which were measured.

Joseph H. Lunt.

This is to certify that I measured six rows of the above corn, which made an average on the whole acre of 168¾ bushels of ears of corn, and the above acre was acurate measure.

James H. Ilsley.

STATEMENT OF JAMES J. H. GREGORY.

Gentlemen of the Committee:

The piece of corn entered by me for premium is of the Longfellow variety, and was grown on 60.625 feet of land. The yield was 229 bushels of merchantable corn, weighing 44¾ lbs. to the heaped bushel, and 7 bushels of "nubbins." The yield of fodder was 154 stooks, averaging 103 lbs. to the stook. In determining the yield of corn, every bushel was measured and the average weight taken of four of them. In determining the weight of fodder the average weight of three average stooks was taken. This measure and weight were taken Oct. 31st in the field. Assuming that 75 lbs. on the ear make a bushel of shelled corn, it will be found that the yield per acre was 101 1-3 bushels of merchantable corn and about four bushels of nubbins. The ears of corn were very generally filled out to their tips. The fodder per acre was 11,309 lbs. or rather over five and a half tons. The corn stalks grew exceptionably tall.

Four years ago the piece was in onions, which had applied to them per acre four cords of barn manure and night soil, and the equivalent of six hundred pounds of a good superphosphate. Three years ago the land was in cabbage, which had applied to them per acre about the same quantity of super phosphate with five cords of barn manure. Last year the acre was in cabbage seed, the manure application being the same as the previous year. After the seed was gathered the land was planted to Rye, which was turned under late in the spring, when it had attained a growth of between three and four feet in height. By comparison with the corn crop on the land adjoining, I believe this acre was helped much by the Rye turned under at so advanced a period of itsgrowth. The cost of production was as follows:

Interest on land,	6 00
Ploughing and harrowing,	2 50
Furrowing and planting,	2 00
Manure and application,	18 00
Seed,	25
Three cultivatings,	2 25
Hand hoeing,	4 50
Cutting and stooking,	3 50
Husking and storing,	6 00
	45 00

The corn was planted the first week in June. The manure used was wholly commercial fertilizer. As the corn came somewhat irregular, I hardly dared use the Thomas harrow as I usually do; hence it required more hand hoeing than usual. As to the market value of the crop, I should put the corn at 75 cts. per bushel, and the fodder on the ground at $8 per ton. As the fodder is not at this date fully dry, I think it might be assumed to be, when in a dry state, at five tons. This would make the entire value of the crop, $116.

James J. H. Gregory.

Marblehead, Oct. 31, 1885.

This is to certify that I this day measured a piece of Longfellow corn on the farm of J. J. H. Gregory at Middleton and that said piece contained 60,625 square feet.

Samuel Roundy.

This is to certify that I weighed three average stooks of corn stalks of a lot of 154 stooks, contained on the above area, and the average weight per stook was one hundred and three pounds. Also that I weighed four heaped bushels of ears of corn from the above piece, and the average weight was 44 3-4 lbs. Also that I measured and superintended the measure of all the bushels contained on the piece and the number was 236 bushels.

Joseph H. Weaver.

ROOT CROPS.

The Committee on Root Crops respectfully submit the following report and acknowledge the receipt in all, of ten entries, viz :

John H. George, of Methuen, enters Onions and Potatoes ; Chas. W. Mann, Methuen, Carrots and Cabbages ; Daniel Carlton, North Andover, Cabbages ; David Warren, Swampscott, Onions ; Paul T. Winkley, Jr., Newburyport, Potatoes ; Richard Newell, West Newbury, Cabbages ; Cyrus K. Ordway & Son, West Newbury, Carrots ; James J. H. Gregory, Marblehead, Cabbages.

After a careful personal examination of the crops on the ground and comparison of the accompanying statements (of which three failed to appear), we have recommended the following awards, viz.:

$10.00, First premium, to David Warren, Swampscott, for crop of Onions.

5.00, Second premium, to John H. George, Methuen, for crop of Onions.

10.00, First premium, to John H. George, Methuen, for crop of Potatoes.

10.00, First premium, to Daniel Carlton, North Andover, for crop of Cabbages.

5.00, Second premium, to Chas. W. Mann, Methuen, for crop of Cabbages.

10.00, First premium, to Cyrus K. Ordway & Son, West Newbury, for crop of Carrots.

* The Committee would further recommend a gratuity of $5 00, to Chas. W. Mann, of Methuen, for his crop of Carrots, as his land falls short of the half acre required for a premium.

S. F. Newman, C. W. Ordway, T. W. Hazeltine—*Committee.*

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* Trustees declined to suspend the rules for the purpose of awarding the gratuity.

STATEMENT OF DAVID WARREN.

SWAMPSCOTT, Oct. 19, '85.

To the Committee on Root Crops:

GENTLEMEN:—The following is the account of my Onion Crop entered for premium:

The crop in the season of 1883, was Onions. Stable manure was used at the rate of eight cords to the acre. The season of 1884, it was planted with potatoes; one-half was manured with "Stockbridge" manure and the other half with stable manure, as I was experimenting on the potatoes. The soil is a dark, sandy loam, with a white, sandy sub-soil. It was plowed from four to five inches deep, in the Fall of 1884. Stable manure applied at the rate of seven cords to the acre in the spring of '85, and harrowed in with a Randall Harrow. Did not use as much manure as usual on account of putting it on with Kemp's Spreader. Smoothed with a common harrow, then dragged and sowed Danvers Onion seed with a Mathews Sowing Machine, at the rate of six pounds to the acre, the first week in May. They were hoed with a Wheel Hoe three times, and weeded twice. They were not pulled, but cut out with a Wheel Hoe, and harvested the last of September. There were 26,018 lbs. of well ripened Onions, making 500 18-52 bushels (at 52 lbs. to the bushel).

THE COST OF THE CROP.

To 3½ cords stable manure, at $4.50,	$15 75
Plowing in Fall of 1884,	2 00
Wheel harrowing in 1885,	1 50
Harrowing and smoothing for seed,	2 50
Three pounds seed, at $1 per lb.,	3 00
Sowing seed,	75
Wheel hoeing,	3 00
Weeding,	12 00
Cutting out and raking crop,	2 50

Topping,	10 00
Harvesting,	5 00
Interest on land,	3 00
	$61 00

DAVID WARREN.

MARBLEHEAD, Sept. 11, 1885.

I hereby certify that the land upon which grew the crop of onions entered for premium by David Warren, measures one-half of one acre.

BENJAMIN P. WARE.

STATEMENT OF JOHN H. GEORGE.

To Essex Agricultural Society :—

Statement concerning a crop of onions, raised by Mr. John H. George, in the town of Methuen, 1885 :

The crop of 1883, was onions. The manure used was night-soil, run on the land from the cart, 7 cords to the acre. The crop of 1884, was onions. The manure used was part night-soil and part stable-manure composted. The nature of the soil is peat-meadow, not ploughed at all; but cultivated, harrowed with brush and tooth harrow twice each way, and dragged. Cost of preparation of the soil, one-half day, one man and horse, $1.50. The manure cost me nothing; but such a compost upon the ground is probably worth $4.00 per cord. The seed was planted the 24th of April, sowed with Danvers Seed sower (5 lbs. to the acre), of the Yellow Globe Danvers onion-seed. Cost of seed, $1.25 per lb; cost of sowing, one-half day for one man, 75 cents. They were cultivated by hoeing with a wheel-hoe five times during the season, at a cost of one-half day each time, one man. Weeded three times, costing twelve days' work for one boy, at 75 cents per day. They were harvested in September, by raking out with rake made for the purpose. When dry, were topped and marketed.

They were measured in bushel baskets, each basket holding when even full, 52 lbs. of onions. The amount was 491½ bushels on one-half acre.

RECAPITULATION.

To crop of onions, to John H. George,	Dr.
3½ cords of Compost,	$14 00
Applying the same with Kemp Manure Spreader, one-half day, two men and two horses,	2 50
Onion seed, 2½ lbs. at $1.25 per lb.,	3 13
Sowing the same, 1-2 days work,	75
Preparing soil, ½ days work, one man and horse,	1 50
Hoeing five times, 2½ days work,	3 75
Weeding three times, twelve days' work, one boy,	9 00
Harvesting, raking out and topping, at 5 cts. per bushel,	24 57
Interest and taxes on land,	7 00
	$66 20

By crop of onions, to John H. George,	Cr.
491½ bushels, average price per bushel, 90 cts.,	$442 35
Received for 491½ bush. of onions, at 90 cts. per bushel,	$442 35
Cost of onions,	66 20
Balance,	$376 15

Respectfully submitted,

JOHN H. GEORGE, Methuen.

METHUEN, Sept., 1885.

This may certify that I measured, with the assistance of Holman Rowell, one-half acre of Onions, for J. H. George, to be entered to the Essex County Agricultural Society.

ISAAC H. LANEY.

STATEMENT OF JOHN H. GEORGE.

To Essex Agricultural Society:

Statement concerning a crop of potatoes, raised by John H. George, in the town of Methuen, 1885.

Crop of 1883 was wood. There was no manure used. The crop of 1884 was potatoes. Shaving manure at the rate of four cords to the acre was applied in the drill. The soil is peat meadow; plowed in the fall of 1884 about six inches deep.

In the spring of 1885, four cords of shaving manure was applied broadcast, harrowed in with tooth harrow, furrowed, 350 lbs. of Bay State Phosphate applied in the drill, planted with Holton Rose potatoes, covered by hand, cultivated once with American cultivator, hoed with horse hoe once, weeds pulled once, dug by hand, crop sold in the field at 50 cts. per bushel. Amount of crop on one-half acre, 194 bushels of 60 lbs.

One-half acre of potatoes to John H. George,	Dr.
To manure two cords (cost the drawing),	$2 00
To spreading and harrowing in,	1 50
To furrowing,	50
To 3½ bushels seed potatoes,	1 75
To cutting, dropping and covering,	1 50
To 175 lbs. Bay State Phosphate,	3 50
To applying phosphate,	25
To cultivating,	75
To horse-hoeing,	75
To pulling weeds one-half day (boy),	37
To digging,	3 00
To interest and taxes on land,	4 00
	$19 87

One-half acre to John H. George.	Cr.
By one hundred and ninety-four (194) bush. sold in the field at 50c per bushel,	$97 00
Less cost,	19 87
Balance,	77 13

Respectfully submitted,

METHUEN. JOHN H. GEORGE,

METHUEN, MASS., Nov. 1, 1885.

This is to certify that I measured one-half acre of potatoes for John H. George, which he told me he was to enter for premium in Essex County Agricultural Society.

D. H. ROWELL.

STATEMENT OF DANIEL CARLETON, OF CABBAGE CROP.

NORTH ANDOVER.

To the Committee on Root Crops:

GENTLEMEN:—The piece of Cabbage entered by me contains one acre. The land is a strong loam, what would be called good corn land; it had been in grass for several years; no fertilizer had been applied while in grass. Twenty loads of strong barn manure were spread upon the sod last spring and ploughed under to the depth of about six inches. The surface was then made as fine as possible without disturbing the sod by using the Acme harrow. The rows were made by ploughing shallow furrows three and a half feet apart. Six hundred pounds of Cumberland phosphate were scattered in the furrows and covered by pushing a hoe along the furrows. Three-fourths of a pound of Fottler Cabbage seed was sown by machine May 20th. The seed was purchased of Warren P. Barker of Danvers, and like all seed ever purchased of that seedsman, proved good, in fact it was so good that I had no vacant spaces but had many thousands of plants to spare for my neighbors.

The plants were thinned so as to stand about eighteen inches apart in the rows. I like to have the plants stand near enough together to grow medium sized heads as very large ones do not sell well in this vicinity where cabbages are usually sold by the pound and not for so much a head as they are in some markets. This year my cabbages were fully as large as customers wanted. The piece was hoed by hand three times and the horse hoe was used about once a week from the time the plants were large enough to be seen until they began to head.

The cost of the crop is as follows:

Ploughing and preparing land,	$12 00
Seed and sowing,	3 00
Cultivating and Hoeing,	21 00
600 lbs. Phosphate,	10 00
Value of manure when spread,	60 00
Gathering and Marketing,	75 00
Interest on land,	6 00
Total,	$187 00

I have sold at wholesale in Lawrence at an average price of about one dollar per barrel, cabbages to the amount of $325 82

I estimate that I have now on hand at least one hundred barrels, worth 75 00

For each load of cabbages trimmed for market get an equal load of leaves for the cattle, I estimate this fodder to be worth 30 00

Making the total receipts, $430 82

Leaving a profit of $243 82.

It will be noticed that I have taken a whole acre instead of only the half acre required by the Society; had I taken a half acre the per cent. of profit would have been larger.

No. Andover, Oct. 30, 1885.

STATEMENT OF CHARLES W. MANN, METHUEN, OF CABBAGE CROP.

METHUEN, Nov. 6, '85.

The crop of Cabbages I enter for premium was raised on top of the highest hill in town. Several years ago the land was cultivated but had been allowed to run out into pasturage. I ploughed it last year and raised a crop of beans with a little phosphate.

Last winter I drew out the manure on the snow, it came from under my barn. I put half a shovelful and a little Bay State superphosphate in each hill, covered it with a hoe and planted the seed by hand. The weather came on hot and dry and the seed did not come up for about three weeks, but it all came and has grown finely. About one-third of it is Warren's Stone Mason and the rest from seed of my own growing from his stock. There is no difference in the appearance of the Cabbage, it is a very uniform and handsome piece. It has been hoed three times and cultivated twice beside. It measures 42,320 feet.

There are sixty rows averaging 140 cabbages each or about 8400 in all. From these I have selected 2000 extra fine heads to keep over for seed, and shall have a fine lot to sell.

Cabbages. Dr.

Plowing and Harrowing,	$4 00
Manure, 4 cords at $6,	24 00
Bay State Superphosphate, 750 lbs.,	15 00
Furrowing and Planting,	7 00
Seed, balanced by plants sold,	0 00
Hoeing and thinning,	18 70
Cultivating,	6 00
	$74 60

Cr.

2000 Seed Cabages.

(Estimated) 5500 Cabbages saleable.

As an appendix to my statement of cabbage crop I offer you the following account of two rows planted at the same time, and having exactly the same care as the rest of the field. There are cabbages or rather plants of all sizes, shapes and colors and if I had depended on either kind of seed my whole crop would have been a failure.

1st, 50 hills Tillinghast's "Puget Sound." Premium Flat Dutch—5 good heads.

2d, 71 hills. The same Late Am. Drum Hd.—4.

3d, 15 hills Dept. Ag. U. S. Fottler's Brunswick,—not a decent head nor a typical F. B.

4th, Henderson's *Selected* Late Flat Dutch (15 hills), small and poor, no good heads.

5th, Stone Mason, "Boston Mkt. Stock" from Parker & Wood, 15 hills,—3 pretty good heads.

6th, 15 hills Stone Mason, "Warren's Stock," from Parker & Wood, 3 heads—badly mixed.

7th, 15 hills Stone Mason from R. & J. Farquhar—2 heads.

8th, 15 hills Stone Mason from William W. Rawson—3 heads, loose and poor.

9th, 15 hills Stone Mason, from Everett & Gleason—5 heads.

10th, 26 hills Stone's Large Drumhead, "Warren's seed," Schlegel & Fottler—11 heads.

CHARLES. W. MANN.

STATEMENT OF CYRUS K. ORDWAY & SON, OF WEST NEWBURY, ON CARROT CROP.

To the Committee on Root Crops—Essex Agricultural Society:

MESSRS:

The crop of Carrots which I offer for premium was raised on land which, previous to 1883, had been used as a cow pasture for many years. The soil is gravelly loam.

In the Spring of 1883, the land was plowed and planted with potatoes, using four loads of barn-yard manure in the hill. Well cultivated through the season, and a fair crop of potatoes harvested. In Spring of '84, spread on twelve loads of barn-yard manure and plowed it in, and planted to corn. Thoroughly cultivated through the season, and harvested about forty bushels of shelled corn from the lot. In Spring of 1885, spread on twelve loads of barn-yard manure and plowed ten inches deep, and sowed carrots. Seed used was the Danvers Improved Long Orange of my own raising. Hoed and weeded crop three times during the season, and thinned to about five inches at second weeding. Finished harvesting crop, October 9th. Weighed entire crop on public scales and had 27,000 pounds, or 600 bushels, being at the rate of 1066⅔ bushels per acre.

COST OF CROP.

Manure, 3 cords,	$30 00
Plowing and harrowing,	2 50
Raking and smoothing,	3 00
Seed, one pound,	85
Hoeing and weeding, three times,	20 00
Harvesting,	15 00
Total,	$71 35
By 13½ tons Carrots, at $15 per ton,	$202 50
Less cost,	71 35
	$131 15
Allowing half the value of the manure remaining in the land,	15 00
The result will be a profit on the crop of	$146 15

Respectfully submitted,

C. K. Ordway & Son.

I certify that I measured the land on which the above crop of Carrots was raised and that it contained ninety square rods, and no more.

RICHARD NEWELL.

STATEMENT OF J. J. H GREGORY OF MARBLEHEAD, OF A NEW CABBAGE.

The piece of Cabbage I enter for premium is a new variety, named "All Seasons"—it being an excellent sort, as the name indicates, to raise for the market, either as an early or late cabbage, and good also to keep over until Spring. It originated on Long Island, among the Dutch market gardeners, and has not before been grown in New England.

The piece was in sod four years ago, and for the two past seasons has been planted with potatoes; the first season with a moderate dressing of barn-manure and the second with a heavy dressing of eight cords of coarse, strawy manure, spread broadcast and plowed in. The first potato crop was a medium one; the second, a heavy one. After the harvesting of the last crop it was plowed and sown to Winter Rye. The rye was cut for straw. It yielded about three tons to the acre.

Immediately after the rye was removed, the land was plowed seven inches deep, with three cords of scrapings of the barn-yard plowed under, and 600 lbs. of fertilizer, was applied, composed of Ames' Phosphate 300 pounds, Sulphate of Ammonia 150 pounds, Muriate Potash 150 pounds; all of the potash and two-thirds of the other componants being applied broadcast and harrowed in, and the remaining third of the phosphates and ammonia being used in the hills. July 9th, it was planted with Cabbage plants, the seed of which had been sowed in the open ground, June 10th.

Plowing, harrowing and furrowing,	$3 00
Fertilizer, and its application,	12 20
Seed,	2 00
Planting	2 00
Three cultivatings,	2 00
Three hoeings,	15 00
Three cords poor manure,	15 00
Total cost of acre,	$51 20

The crop was saved for seed growing. The market value of the cabbages on the ground, would have been about five cents each. Grown side by side with an acre of Fottler, it proved to be earlier, and it matured a larger per cent. of heads. It matured within a day or two of Henderson's Early Summer, while for size, it averaged over half as large again. Old Essex has become a famous county for new Cabbage, but in "All Seasons" I am satisfied that the Dutchmen of Long Island have given us an acquisition.

JAMES J. H. GREGORY.

REPORT OF THE COMMITTEE ON FOREST TREES.

The pioneer-settlers of Essex County, while they vigorously waged war against the monarchs of the forest that occupied the fertile lands desired by them for cultivation, were not unmindful of the value of forest trees. An example of this is found in the action of the Proprietors of the undivided lands of the town of Newbury on the 24th of January, 1709, when—

"It ws voted yt no Timber Tree or Trees standing in any of ye pastures now stinted, shall be cut down, lopt or defaced under ye penalty in ye law in yt behalf made & provided; but yt ye sd trees be henceforward preserved for shade."

A few huge oaks still remain in those pastures, where they have afforded a mid-day shade to cattle since the parent herds were brought from Devonshire, in Old England ;—many an old homestead is graced by a gigantic elm, which must have been transplanted to its present locality far back " in good old Colony days, when we lived under the King;" and there have been until recently several historic trees of English parentage, such as the old Mulberry-tree at Dummer Academy.

It was not therefore to be wondered at, that when the Massachusetts Society for the Promotion of Agriculture, at an early period of its existence, offered liberal premiums " to the person who shall produce from seed the best growth of thrifty trees," either oak, ash, elm, sugar-maple, beech, birch, chestnut, walnut or hickory, the first premium—a gold medal, valued at fifty dollars—was awarded to Col. Robert Dodge, of Ipswich Hamlets, (now Hamilton), the grandfather of Hon. Allen W. Dodge, so long the Secretary of the Essex County Agricultural Society.

Col. Dodge, after returning from his revolutionary campaigns, had devoted himself to the cultivation of his ancestral acres, and he commenced planting acorns and nuts in October, 1797. The land had that year borne a crop of corn, and on two acres of it he planted in each hill either four acorns or four walnuts, chestnuts or oil nuts, about three inches deep. On another part of the same field, he sowed,—to use his own expression—"broad-strow," with acorns, the same varieties of nuts and the seeds of white ash, all of which were harrowed in.

" Just before the frost set in," said Col. Dodge in his report, " I examined the hills in the nursery and found the acorns generally sprouted, and some of the sprouts more than two inches in length. The nuts appeared in the same state in which they were planted. In the spring following, I could only find four of the acorns which had sent up

shoots out of the ground, and the nuts did not swell sufficiently to burst their shells. But those sown by broad strow came up pretty well, and I had them transplanted into a part of the nursery. From these circumstances I concluded that the acorns and nuts planted in the nursery, were put into the ground too early in the autumn, and were covered much too deep."

After narrating several subsequent experiments, Col. Dodge said: "I have found that both acorns and nuts vegetate best when only covered over so lightly as that no part of them can be seen above the surface." He had "growing on the 13th of October, 1801, from the acorns, nuts, elm and ash-seed which he had planted, two thousand seven hundred and ninety-two white and yellow oaks—four hundred and twelve shag-bark walnuts, forty-eight oilnuts, one hundred and ten chestnuts, two hundred and thirty-nine elms, and forty-one white ash;—the whole number, three thousand six hundred and forty-two." Some of the elms now adorn the Salem Common.

Col Timothy Pickering encircled his estate at Wenham with evergreens which now mark it to the passer-by on the railroad. Gorham Parsons planted rare and beautiful forest trees on his "Fatherland Farm" in Byfield, and his example was followed by E. Hersey Derby at South Salem. But comparatively few forest trees were planted in Essex County during the first two decades of the present century.

Meanwhile nearly all of the forest trees in the county were felled. Large numbers of vessels were launched from the ship-yards which dotted the coast, varying in size from the frigate Constitution and Essex, down to the pink-sterned Chebacco boats used by the hardy fishermen. Churches, houses and barns had massive oaken frames, white pine boards of almost fabulous width were used for flooring and wainscotting, and rift cedar shingles kept out the rain for at least two generations. Hoops and pipe-staves were

enumerated among the staple articles of export which "fetch money from other parts." Then there were huge fireplaces and wide-mouthed ovens, to supply which made sad inroads on large wood-piles. Every farm had its wood-lot, and stout ox-teams were kept busy in the winter, when the sledding was good, hauling wood and timber to the nearest town for sale, or keeping up the home supply of fuel.

When the General Court of Massachusetts in 1819, enacted a law granting bounties to the Agricultural Societies within the Commonwealth, it was made the duty of each one of them to "offer annually such premiums for the raising and preserving of oaks, and other forest trees, as to them shall seem proper, and best adapted to perpetuate, within the state, an adequate supply of ship-timber."

The Essex County Agricultural Society, with the other associations entitled to receive the liberal bounties thus offered by the State, have drawn their respective amounts with commendable regularity from the treasury, and they have as regularly offered premiums for plantations of trees suitable for ship timber, but, (with the exception of the groves at Lynnmere and on Indian Hill), not enough has been raised for the construction of a pilot-boat.

It is not the fault of the Society that every bald-pate hill in the county has not been reclothed with wood, to adorn the landscape, and so husband the rain that our dried-up brooks would again be filled with living water. The Trustees have offered liberal premiums, which committees have generously awarded whenever they could conscientiously do so, and the annual Orators have frequently urged the planting of forest trees. All admit the necessity for tree-planting, but only a very few have planted trees. Since coal has been burned in the fire-boxes of locomotives and in domestic cooking stoves, the area of woodland in the county has increased, but no system is adopted for thinning out the natural growth, which Professor Sargent well says, is

"comparatively worthless for employment in the arts, and only supplies, after years of struggling growth, an inferior fuel."

The reason why the yeomen of Essex County have not more generally planted forest trees was probably correctly stated by a prominent member and officer of the Agricultural Society, Col. J. W. Proctor, in the practical annual address delivered by him in 1844. Said he: "Perhaps the uncertainty of the tenure of our estates, and the still greater uncertainty of the disposition of the rising generation to be willing to follow the humble but honorable occupation of their fathers, has determined many from venturing upon experiments, the benefits of which could not be realized while they lived.

It is true, that there is a wide interval of time between the sprouting acorn and the stern-post of a ship, and now that vessels are built of iron, it may no longer be advisable to cultivate the slow growing oaks. But Chestnut trees grow rapidly, and soon declare profitable annual dividends of nuts, while the locust-trees not only furnish a continuous supply of durable posts, but their leaves enrich the feed all about them. It will soon pay any farmer who owns hilly pasture land, to plant small patches here and there of chestnuts and locusts, fencing them to keep the cattle away from the young trees.

The Essex County Agricultural Society has wisely offered premiums, in late years, for the best lots of "Ornamental trees, ten or more, set on any street, road or farm, and cared for during five years. It is almost incredible that this year, there was but one competitor for this premium.

The committee on Forest Trees found but one entry for the plantation premium, and one entry for the best lot of ornamental trees—both made by J. D. W. French, of North Andover. A majority of the committee visited Mr. French, and examined his trees, which are described, with the man-

ner in which they were planted and have been cultivated, in a statement which he was requested to furnish, and which is appended.

* The committee recommend the award of the first premium of $20 for the best plantation of White Ash trees, although the number is beneath the Society's requirement; and award the premium of $10 for the best lot of ornamental trees for twenty-five sugar-maples.

The chairman was authorized to submit this report.

BEN: PERLEY POORE, *Chairman.*

STATEMENT OF J. D. W. FRENCH.

No. ANDOVER, Aug. 6. 1885.

Chairman Committee on Forest Trees—

Essex County Agricultural Society:

DEAR SIR:—In accordance with your request, I herewith send a statement in regard to the plantation of White Ash trees, &c., which your committee inspected. In the spring of 1878, I planted 1500 White Ash trees, 12 or 15 inches high, obtained from Robert Douglass and sons, Waukegan, Ill. Of these about 900 are still alive. They were set out in the green sward, 4 ft. apart, with the spade. They are practically in two plantations, although there are some scattering ones. My entry is 600 trees which may be taken from the two plantations. The smallest, though best lot, consists of 250 trees, situated in a triangular piece of land, opposite my house, formerly part of a pasture, inclining slightly towards the West, with very good soil and somewhat moist in a hollow running through a part of it. These trees average about 10 ft. in height. The other lot of trees is on higher and dryer land, and have not attained

* The Trustees decided against suspending its rules to allow this premium.

the size of the former. The average height is about 5 ft. Outside of the natural advantages of soil, &c. the treatment has been the same.

The grass and weeds on each piece of land have been cut with the scythe yearly.

The Sugar Maples entered for the prize for ornamental trees, number some 25, and were mostly planted in 1878—a few having died, and the vacancies filled. They were about 8 ft. high when planted, and are now on an average, 20 ft. These are situated on the road-side. At the time of planting, the main stem was not sawed off, as is the usual custom in the country, but the branches were pruned. The occasional trimming of the irregular and the shortening of the longest branches, will, I think, in the end, give compact and uniform heads.

My Larch plantation of 5 acres, to which yon desired me to refer, was made in the spring of 1877, and originally consisted of 15,000 trees, about 12 inches high, planted on a dry side-hill pasture, with Southerly exposure, protected on the North side by a grove of hard wood trees. Probably less than one-half of those planted are alive at the present time. One of the greatest hindrances to rapid growth has been the loss of a great many of the leaders, caused by insects, wind and snow. Some have reached the height of 15 feet, but the majority would not average over 8 or 9 feet.

Yours truly,

J. D. W. French.

REPORTS OF COMMITTEES ON SMALL FRUITS.

Bradford, Nov. 16, 1885.

To David W. Low, Sec'y Essex Agricultural Society:

The Committee on Small Fruits make the following report: By order of the Secretary, the Committee viewed

the Currant Crop offered for premium, by Wm. Huff of Newburyport. The bushes were heavily loaded with fine, developed fruit of Victoria variety, and in excellent condition of cultivation. The exhibit made, met most fully the requirements of the Society, and richly merits the highest premium, $10.

Chas. B. Emerson, Thomas Capers,—*for Committee on Small Fruits.*

STATEMENT OF WILLIAM HUFF.

The crop of Currants which I enter for premium, was grown on about 25 rods of land. Have been in bearing about ten years. As they are planted in single rows, the only manure they get is from the land that is manured for vegetables on both sides. The variety which I grow are mostly the Victoria.

Cost of picking,	$9.60
VALUE OF CROP.	
15 bushels, at $2.75,	$41.25
Cost,	9.60
Profit,	$31.65

Bradford, Nov. 16, 1885.

To David W. Low, Sec'y Essex Agricultural Society:

The Committee on Small Fruits make the following report: By order of the Secretary, the Committee viewed the Raspberry Crop offered for premium, by Henry K. West of Haverhill. The bushes were heavily loaded with full developed fruit, and in excellent condition of cultivation. This exhibit was fully up to the standard required by the Society, in every respect and deserves the highest premium, $10.

Chas. B. Emerson, Thomas Capers,—*for Committee on Small Fruits.*

STATEMENT OF HENRY K. WEST, OF HAVERHILL.

The Raspberry Crop which I enter for premium was grown on about two acres of land, quality, light loam. Age of bushes, one to seven years. I hope the Committee will bear in mind that in making out this account I have been obliged to enter a large proportion of young plants, bearing their first or second year's crop. Whereas, if I could have taken the best half acre and kept the account separate, I should have made a much better showing.

MODE OF CULTIVATION.

Manured the land well and harrowed it in. Set plants in rows, eight feet apart, by three and four in row. Nip back young shoots at from two to four feet according to the age of the plantation. Keep the land well cultivated between rows, and the rows free from weeds and grass. The main pruning is done before the frost is out in Spring. The cost of cultivation varies with size and age of plants. We raise some other crop between the rows the first season.

Amount of crop, 6500 boxes, which sold for 15 cents each,	$975.00
Deduct picking, freight, commissions, etc.,	325.00
	$650.00
Cost of cultivation,	150.00
Net profit,	$500.00

Yours truly,

HENRY K. WEST.

NEW VARIETY WINTER APPLES.

The apple crop is of vast importance to the farmers of Essex, not only for domestic purposes as food and a luxury, but as a source of income, and this comes mostly from

Winter apples. Early apples for Summer and Fall use are sometimes quite profitable, but when produced in large quantities, the demand is not always equal to the supply, and remunerative prices cannot be obtained. Therefore, winter apples for the most part, are considered the most profitable, and largely for foreign market, and the hard, rocky land of Essex County is well adapted to produce hard, late-keeping apples for that purpose.

I well remember the discussion that took place at the time the $100 premium was offered for a new variety of apples originated in this county, equal to the Baldwin ór Roxbury Russet, and some of the men that took part in it. They were men of long experience and careful observation, and the reason they assigned was, that varieties of apples in time deteriorated and became less valuable.

It is an arrangement of nature; everything that grows has its maturity and decline; and I think it is so with varieties of apples, and our own observation confirms it.

The Roxbury Russet and Green Sweet were adapted to spring and summer use; the Rhode Island Greening and other varieties, for winter use; all of which were produced in my father's orchard, to a good state of perfection, in days of my childhood.

Now all those varieties have greatly deteriorated and the most of them not worth cultivating.

The Baldwin apple originated in a wood in the town of Wilmington, as is supposed, more than a hundred years ago. They were at first called the Butters apple, for the man that owned the land, after which they were called the Pecker apple in consequence of the woodpeckers perforating the bark.

Col. Laomi Baldwin, a distinguished engineer who planned and engineered for the construction of the Middlesex Canal from Merrimac river at Chelmsford (now Lowell) to Boston, in 1793 and 1794, in some of his perambulations

discovered these apples, perceived their good qualities and disseminated them by his own name.

In discussing the apple question at the Institute at Lawrence, the history of the Baldwin apple was spoken of, and a report of the meeting was published in the Salem Gazette: soon after, the writer received a letter dated Red Wing, Minnesota, from a person formerly of Danvers, giving the following information: The Baldwin apple, he says, was introduced into Danvers, about the year 1812 or 1813; also, the Pecker apples were introduced about the same time, that proved to be the same variety. They were introduced into other parts of the County about the same time.

He further informs us that in 1824 he assisted in setting out several hundred Baldwin apple trees on the Derby farm in Danvers (now Peabody). The land was highly manured and kept cultivated; the trees grew vigorously.

Setting out so large an orchard with a new variety of apples so little known shows the strong confidence the people then had in the value of that new variety of apples. The result has proved that their confidence was not misplaced.

But, alas for this beautiful orchard! It was destined for destruction. In the winter of 1831-32, the trees having had seven years' vigorous growth, were nearly all killed. The autumn was unusually mild, until about the middle of November, when the weather changed suddenly to unusually cold, the commencement of a long, cold winter, with sleighing from about the 20th of Nov. to April. The sudden change from warm to cold, when nature had not performed its usual work of preparing the trees for winter, proved disastrous to many of the young orchards, particularly the Baldwin apples, as they were a vigorous grower, and the more thrifty the trees, the greater the loss sustained. We were not personally acquainted with the orchard spoken

of, but when going to Salem market in the spring, we well remember when passing the farms of those pioneer farmers, Col. Jesse Putnam and Daniel Putnam of North Danvers, seeing the sad effect of the past cold winter on their young trees, particularly of a young, thrifty orchard of Col. Jesse Putnam, by the road-side, in which nearly every tree was killed, and afterward removed, except a few in one corner of the field on a rise of ground, where the trees were less thrifty, they were less injured: mutilated, not wholly killed. This calamity was considerably extensive, and greatly checked for a season, the ardor of the people in propagating the Baldwin apples.

Our own orchard suffered considerably, but not as much as some others, as we had not gone so largely into that variety of fruit. A circumstance appeared in our orchard that I have not heard of elsewhere.

The bark on the north side of our most thrifty bearing trees was loosened from the wood as we perceived by tapping on the bark with the handle of a jack knife, and we expected serious loss. When nature performed its work and the sap flowed, the bark adhered to the wood as usual, and but little damage was done, except where there was a hole cut through the bark and let in the air it took a long time to heal up, and then was imperfect.

There has been no application for premium during the past year, for a new variety of winter apples. Mr. Alfred Ordway of Bradford, again presented a sample of his new variety of apples at the Institute at Lawrence, and the chairman of your committee is of the opinion that they may be an apple worthy of cultivation, and would recommend that apple growers procure scions and test them on different soils, that we may know more of their value, and that Mr. Ordway receive a gratuity of twenty dollars for the interest he has taken in the matter, and to induce others to follow his example.

In viewing the fruit as a member of the committee at the late Fair at Newburyport, I noticed specimens of four varieties of winter apples alluded to; each variety is supposed to be more than a hundred years old, viz., Roxbury Russet, Green Sweet, Rhode Island Greening and Baldwin apple. All these varieties have stood high among the best varieties of fruit, but are now on the decline. Even the Baldwin, that now stands at the head of the list, is not, as a variety, what it was in its early days. Those specimens spoken of at the Fair were some of them very good. But one good specimen, or one good crop, does not prove the variety profitable to cultivate.

We would recommend the premium to be continued, but the form somewhat changed. That it be substantially as follows:

For new variety of winter apple originated in this County, equal to the Baldwin, $100. Also, a premium of twenty dollars for a variety of like character, originated elsewhere, providing they have been cultivated in this County sufficiently to prove that they are equal to the Baldwin for general production.

Jos. How.

Methuen, Nov. 10, 1885.

REPORT OF COMMITTEE ON TREADWELL FARM.

The Farm was visited in April by a portion of the committee, and arrangements made with Mr. Thos. W. Pierce's foreman, in charge of the farm, for several experiments, to be conducted during the season, but on account of a change of foreman the new one who came the last part of May was not informed of the plan of experiments, therefore it was dropped.

The same portion of the committee again visited the

Farm in October and found an excellent crop of corn being harvested, and by the appearance of the barn there had been good crops of hay and oats harvested.

The general appearance of the farm at the time of visits made was satisfactory, with the exception of eradicating wood-wax from the pastures. The terms of the lease have not been complied with in that respect. The death of the lessee, Thos. W. Pierce, may have been the cause of the failure of intended work in the pastures during the Fall. A statement of the crops and amount of manure used on the farm during the year is appended.

REPORT OF PRODUCE—ESSEX COUNTY AGRICULTURAL FARM.

15 tons English Hay,	$300 00
15 tons Meadow Hay,	150 00
1000 bush. Shelled Corn,	600 00
50 tons Stover,	400 00
15 tons Hungarian,	150 00
400 bush. Oats,	160 00
10 tons Oat Straw,	100 00
100 bush. Beans,	175 00
15 bush. Cranberries,	22 00
50 bbls. apples,	75 00
Pasturage,	100 00
	$2232 00

MANURE APPLIED.

50 cords Stable Manure,	400 00
10 ton Fertilizer (Stockbridge),	350 00
	$750 00

BENJAMIN P. WARE, *for the Committee.*

IN MEMORIAM.

The committee appointed by this Society at its annual meeting to prepare appropriate notice of the death of members of the Society, who have died during the past year, to be published in the transactions, submit the following :—

Stephen D. Abbott of Andover, one of our old members and a farmer of intelligence, died Sept. 9, 1885.

George Foster, of Andover, became a member of this Society in 1863. Was connected with the "Lawrence American" as an editor. Killed on railroad Oct. 24, 1885.

Rev. Ephraim A. Edwards of Beverly, died Nov. 4, 1885, aged 61 years. At the age of twelve years he began work at shoe making with an older brother, which he followed with intervals of working with his father Ezra Edwards on the farm and attending school two months in winter, until the age of nineteen. He naturally had a love for books, and at that age he commenced studies at New Hampton, N. H., and finished a course of theology at Newton, Mass., was settled as pastor of Baptist church in South Hampton, N. H., at Cape Neddick, Me., South Sandwich, Mass., and Martha's Vineyard, Mass. Twenty years ago his health failed, he returned to Beverly, bought the Edward's homestead on Dodge street, where with his sons, he became a successful farmer principally at market gardening, leaving it two years ago to become pastor of the Baptist church at East Washington, N. H., until his last sickness. He was on the School Committee of Beverly, eleven years, and was a greatly respected citizen. No better evidence of his persevering energy than the above sketch of his life need be given.

Samuel Kimball of Boxford died suddenly at his home on the 18th of February, 1885, at the advanced age of eighty-four years. Capt. Kimball was born in Boxford, but lived several years in Marblehead in his young days, and finally returned to the farm. While he took a deep inter-

est in farming, spending money and labor in setting out trees, and reclaiming waste lands, his talent for business, and his spirit of enterprise, led him to engage in other occupations. For more than thirty years he was a successful manufacturer. But though devoted to business, he did not fail to continue his improvements on the farm. He was a man of sterling character, of large sympathies, and generous impulses, ever ready to help forward all good causes. He died full of years, leaving behind a precious memory and the influence of a faithful life. He became a member of this society more than thirty years ago.

L. L. Abbott of Danvers, died Nov. 24th, 1885, aged 35 years.

Orrin Putnam of Danvers, an old farmer, died June 10, 1885.

Amos A. White of Danvers, died April 3d, 1885, aged 62 years. He was a shoe manufacturer and a citizen of prominence and influence.

Samuel James, of Gloucester, died Oct. 2d, 1885; an active and industrious citizen, one who was seen almost constantly at our Cattle Shows, and has served on committees and been a contributor to its success by his good horses and excellent plowing.

Samuel Dane, of Hamilton, joined this Society in 1857, died May 11, 1885, having lived a good and honorable life.

Isaac Knowlton, of Hamilton, died Nov. 7, 1885. An old member of this Society and a good and honorable man.

Henry Cummings, of Haverhill, died in the summer of 1885. A School teacher of merit and mark in his time, and greatly respected and loved.

William B. Richards, of Haverhill, a stable keeper by occupation, died in 1885, well known and respected.

Gilbert Conant of Ipswich, died in 1885.

Adolphus Durant, of Lawrence, died June 23, 1885, aged 87 years. He joined our Society in 1840, always an

owner of land and greatly interested in agricultural literature.

Levi Emery, of Lawrence, who has passed to a higher life after a long and severe suffering from a painful disease, was a trustee of this Society in 1867, 69, 70, 71, 75 and 78, and an active member for many years. He was a man of great energy and persistence and usually succeeded in his undertaking. He took an active part in local politics, had served in the legislature, and official positions in the city government, in whatever position he was prominent and active. As a farmer and market gardener, he ranked among the first. To him the public are indebted for several new and improved varieties of vegetables; his products took the lead in Lawrence markets, and were noticeable in Boston and New York markets as among the best in quality, giving unmistakable evidence of skill. He was a man to be missed in all relations of life, and as a member of this society, we sincerely mourn his loss.

Moses Hill, of Revere, a non-resident member, deceased.

John Batchelder, of Lynn, died in 1885. He was a veteran school teacher, a member of the Houghton Horticultural Society of that city, and was held in high esteem by his fellow citizens.

John D. Hildreth, of Manchester, died April 22, 1885, aged 76 years. He was an old member of this Society and a valuable citizen.

Frederick Burnham, of Manchester, died Oct. 29, 1885, aged 69 years; for over thirty years a member of this Society, a man greatly respected.

William Noyes, Jr., of Newburyport, died Aug. 5, 1885, at the age of 67. He was a comb manufacturer, and a man of remarkable ingenuity in the way of inventing and making improvements upon comb machinery, having in fact few or any equals in this line in America. Mr. Noyes was a West Newbury man, becoming a member of this

Society from that town in 1863, and has long been identified with the comb making industry in Newburyport. He was a very quiet, unobtrusive man, devoted to his family and business, and a good citizen. He left a widow and two sons to mourn his loss.

Stephen W. Little of Newbury, died Nov. 2, 1885, aged 90 years; had been a farmer all his life and member of this Society for over thirty years. He was one of the first retailers of milk in Newburyport, which business he followed for more than a half century. In his early manhood he was Captain of a Militia Company; and was a deacon of the First Congregational Church of Newbury for many years.

Amos Gould of Wenham, died in March, 1885. He was a boot manufacturer, retiring from active business some years since. For upwards of thirty years he had been a member of this Society.

Samuel S. Chace of West Newbury, died Jan. 23, 1885. A member of this Society from 1856.

Otis Little of West Newbury, an old member, died Oct. 28, 1885. He was serving on important committees of this Society as far back as 1844.

Moses Smith of West Newbury, became a member of this Society, in 1848; died Oct. 25, 1885.

Charles P. Bailey of North Andover, died in 1885.

Daniel Buxton Jr., of Peabody, died Sept. 1st, 1885. He was a farmer, shrewd and careful in his observations, and to him we are indebted for the "Improved Danvers Onion," which stands the highest among onions for market and shipment, whilst his seed was considered always reliable. He was an old member of this Society, quiet and unobtrusive in his manners, and very faithful in all his work. In his death the Society, and farmers generally, have met a great loss.

Isaac Hardy of Peabody, died March 16, 1885. He

became a member of this Society in 1856; was a successful manufacturer, Deacon of the South Church of that town, and one of its prominent citizens.

Perley King of Peabody, died June 25, 1885. He was another old member of this Society.

"Henry Kemble Oliver of Salem, was born at North Beverly, Nov. 24, 1800; entered "Harvard" in 1814, began teaching in June, 1819, and continued in one school and another until 1844, when he was appointed Adjutant General of the State. In 1848 chosen Agent of Atlantic Cotton Mills, Lawrence." In 1852 he delivered the Annual Address before this Society, and in 1851–52 as chairman of committee on Bees and Honey; Flowers, 1852, and Poultry, 1854, all of which made able and interesting contributions of information to the literature of the Society. He became a member in 1856, and was one of its Trustees in 1857, '58 and '59. "Was Mayor of Lawrence in 1859. Became State Treasurer in 1860, Chief of Bureau of Statistics in 1869, Mayor of Salem in 1877, '78, '79, '80. He was very musical, being a performer and composer of merit. He died Wednesday, Aug. 12, 1885, aged 84 years 8 months 18 days."

William Chase of Salem, was born June 28, 1813, and in early life was a successful hardware dealer; an ardent Quaker; took great interest in the Salem Fire Department, being Engineer from April 9, 1849 to Jan. 22, 1861; served in Common Council in 1841–42–43–48, and Alderman in 1846. Was a Trustee of Plummer Farm School from its formation, and Agent of S. P. C. T. A. He became a member of Essex Agr. Society in 1851. His death was caused by railway accident, Wednesday, July 8, 1885, at the age of 72 years.

Thos. W. Pierce of Topsfield, died ——— 1885. Became a member of this Society in 1858, and at the time of his death was lessee of the "Treadwell Farm" owned by

this Society. He was a man of wealth and chiefly benefited the farmers of his section of Essex County by introducing choice cattle, allowing the citizens of his town the use of his best bulls at a low price, and in many cases free of charge, where men would agree to raise the calves. In consequence of his kindness in this respect, the quality of the stock in that neighborhood is much improved. About a year ago he had at one time no less than five good bulls, of as many different breeds, for service at his farm. Any one could select, after examination, the animal best adapted to his wants.

It will be seen by the above list, that most of the large harvest from our members gathered for the better land, by the ever busy reaper, Death, during the past year, has been well ripened and with good, well filled heads, far more than the average. Each, and perhaps others not reported, have in their own way contributed to the success of our Society to a greater or less extent, for which we sincerely regret their loss and send out to the families of the deceased our deepest sympathy in their affliction.

David W. Low, *for the Committee.*

SOCIETY THOUGHTS.

AN ESSAY BY FRANCIS H. APPLETON OF PEABODY.

In this connection the first thing to be urged upon citizens of the County is to increase the membership of this Society by joining it.

Our Society has a most honorable, as well as an exceedingly successful record, in the past and present, of which all citizens must be truly proud. We ought to have represented in our membership, a much larger per cent. of our citizens than we can boast of to-day. We have had it in the past and we deserve to have the higher per cent. of the recent past made applicable to-day.

In my own town I, last autumn, mailed about 150 postal cards, stating some interesting facts, and inviting citizens to become members; the result being that four new members from Peabody joined our ranks in 1884, upon such invitation.

Those who are interested enough to attend our annual dinners, should *all* be, or be induced to become, members of our Society, and the attendance there should be fully as large as now.

While my own attempt to secure new members may not appear, from the number secured, encouraging, I do not think it need deter anyone from making the proposed attempt, and showing how much greater in numbers future efforts in this direction can be made.

We hear much said about keeping the boys on the farm, and urging young men to enter public life. A good beginning in either of these ways would be for the young men to take the same active interest in the Essex Agricultural Society that their fathers have done.

It has been truly said that our Annual Meeting is made

up largely of the older men, and few young men take part, but we must all be glad that the older ones do not absent themselves, for our affairs could not so well succeed without their aid. However, more younger ones should be associated with them in order to prolong the Society's life in its usefulness, and that they may be learning from, and aiding, the older ones in regard to the management of the Society's affairs.

There being many attractions in our business centres to make a living with less hard, but less healthful work, is why we have fewer taking interest in agricultural affairs, attending our annual meetings, and among our membership, who can be called the younger men.

All ages should be joined together in order to perpetuate our Society for the purposes, and in the manner, intended by those who so wisely founded it

Ours is not wholly a membership of farmers, and never has been. Look over the long and interesting list of past and present members, with the names among those who have reached more than local distinction, and you will find that a very large proportion have not tilled land as their chief business, but that such have done so largely because of a natural love of agriculture, which is a blessing to him who possesses it. Nor does our membership comprise only those who till, or have tilled, the soil, for you will find a considerable number of those, who cannot be called agriculturists at all, but who have taken a sufficient interest in our annual Shows, and in aiding our organization, to become members.

By our Constitution *any citizen* of the County may become a member upon payment of $3 to the Secretary, and in return receive a certificate of membership. But a large part of more recent members have joined under the Society's rule, that $3 of every award of $7 and upwards made to a citizen of the County, who is not a member,

shall be retained by the Society and a certificate of membership issued in its place.

The latter is a grand opportunity for young men to become members and to have their interest in agricultural affairs largely increased and well rooted. Let them take pains in raising certain things—as they may choose—to offer for competition at our Shows; or, as well, let parents allot to their children the care of certain animals and articles, so that they may bring them into a satisfactory condition for winning prizes, and let them be entered in the children's names.

And, now, let me not only propose, as has been done before, but urge that a committee of young men be, somehow, formed in each city, or town, in this county (or appointed by the Trustee) to make a canvas for new members of this Society. I am led to remark that I think it well to regard all under 50 years of age, as being young enough for this committee. But I would advise putting some young men on, whose ages would be among the twenties.

Let it be remembered, then, that EVERY CITIZEN OF THIS COUNTY is eligible and that our first desire is for active members; but that if a citizen cannot be active, he can help us by becoming a member and enlisting himself in our interest.

The question occurs to me whether it would not be a good plan for an annual prize to be offered (as an experiment), for the largest number of new names, not less than ten, proposed by any one person during the year.

I believe it may be of value to us, as a society, to place these suggestions before our members and citizens, and I trust that they may produce some result.

Looking back through our Transactions for the past three to ten years, you will find quite a number of suggestions as to improvements in the details of arrangements at our Show, and in the methods of awarding, and announcing, of

prizes, and in the classification of articles and animals exhibited. Our Secretary has thus given much valuable advice, and a large part of it has been adopted to our good.

It must be remembered that our Exhibitions—in all departments—are prepared and directed so that a large quantity of exhibits can be received, as well as a more moderate number. You must see at once, therefore, in the former possibility, the value of the adoption of a good system; and the necessity for having such, even if the disappointment of a small show results. No good system can avail unless those who are to exhibit, respect and obey the rules upon which such system is founded.

The greatest trouble that the Managers at our shows have to contend with is that too many people persist in not sending notice to the Secretary of what they will exhibit, until a much later hour than the rules ask for; and not only this but too many exhibits are sent in so late that it becomes impossible to properly arrange the articles in season to open the doors (in the case of the Hall), or make a full display, at the advertised time.

It will be seen, therefore, that it will be a kindness, not only to the management and general public, but to all the other exhibitors, for each one to ENTER articles and animals, and *have them at the Hall or Show Grounds*, as the Society's rules require.

The Committee must have ample time to examine them, in order that they may do justice to their work; and the public should be enabled to examine and study them during *all* the regularly allotted time.

Proper attention to the foregoing by Exhibitors cannot fail to best satisfy all concerned, simplify their work, and insure a well arranged show.

There is another point worth thinking of which I have recently seen so successfully carried out at an exhibition of Fruit, Vegetables, etc., at a Farmers' Club festival, and

which I have frequently heard advised for our Society, that I desire to suggest it.

It is in regard to making entries. At that festival, all entries were made against a number, and a card with the number only on it was given the exhibitor to put upon his exhibit; and later the Judges placed the Premium card upon the exhibit, with its entry number added and also the exhibitor's name, at the time the award was made. This is a fair way, and none can be accused of prejudice in passing judgment under it. It is fair to Judges and Exhibitors; and good for those who come to examine and study the exhibits. By adding the name of the class, and possibly the location of the class in the Hall, to the entry card, which had a number upon it, we could adapt this system to our own case.

About ten years ago the subject of locating our annual shows was proposed and the writer was on a committee of this Society, with four others, to consider, and report upon, the matter. A hearing was held at Salem and the report was against doing so.

It is, and always will be, an important subject, because such a place will always offer certain advantages.

At present many farmers' clubs exist in different parts of the County, which hold exhibitions of all farm products, and thus offer such local encouragement together with that agreeable and useful social festival which centers in meeting one another, and joining in an annual public dinner.

Considering this, and that our Society now moves to all parts of the County, aiding and encouraging agriculture by its Farmers' Institutes in Winter, I think that the subject of a less migratory plan for our Summer meeting and exhibition may well be again considered to-day.

It would, in my opinion, be a great mistake for us to ever build and own permanent quarters anywhere, judging by the many failures in this direction of which we have sufficient examples in our own State.

But, with the present railroad facilities (steam and horse) which we possess, and the ease with which animals, produce, implements and owners can now be carried, there are places which can be easily reached from all parts of the County and where accommodations can be of the best. At such our Society could soon feel at home for our Annual Fairs and Reunions. I say reunions, for we must not forget that the men and women of our County, who are the controlling influence in the success of our shows, hold the leading place thereat.

It would be appropriate for a *separate* association to provide such accommodation for us, as we ought to have, including covered pens for stock, if the Society should decide to make such a trial for several years. Such buildings could be so located as to be useful to their owners for other purposes between the seasons of our exhibitions; or temporary, or portable structures might be wiser. We could thus experiment without binding ourselves in any permanent way as to ownership of grounds, or in any way altering our present good financial standing.

There are locations well adapted to this, where failure as to exhibits in Hall or at Show Grounds, and as to good receipts, could hardly be possible; and where it would seem that local interest would be glad to provide for us the necessary buildings should we agree to come for a limited length of time.

A word about the proposed attempt of the Forestry Congress, recently held at Boston, to secure legislation throughout New England which shall tend to guard our woodland, as much as possible, against injury from fire, &c.

At first we must consider this subject, as in the interest of the State. The public health, which means the welfare of all citizens, demands that the amount of woodland, in good condition and including sprout-land, should bear some

large proportion to cleared land and waste land. Figures cannot definitely represent this proportion, but it is safe to call it large in favor of the wood and sprout land, not only because such is natural, but because it is the source of water supplies and has great effect in preventing injurious extremes of climatic influence.

In the country districts, where the density of population is least, the public health is as dependent upon the woodland for beneficial climatic influence as the cities, where the density of population is greatest. But should the wood lands not be protected against injurious influences, and should they deteriorate or be allowed to lessen in extent, that more thickly settled portion of the State would feel the ill effects first.

There are large quantities of woodlands throughout New England about which it is best for the assessors that the owners do not attempt to work up a sum in arithmetic to prove their value; for such values would be, in many cases too low to bear the burden, even of the smallest tax.

Consider the many uninsurable risks from fire, coming from carelessness, or because no one has yet invented a spark-arrester for locomotives, and also regard the losses from insects which are far larger, often, than is generally supposed; consider again the taxes that are assessed, also the low market prices for cord-wood, or wood on the stump, and what has the owner to show, after he has cut off a wood lot, as an average yearly rate of interest on his property for the number of years that his wood has been growing? Supposing, I may add, that his lot has not been burned over, and that he has had no unusual ravages from borers of other insects.

Not only, therefore, have we to consider how we can best preserve our woodland in a healthy condition, but it becomes evident that to do so, the individual owner in many cases needs protection.

Such individual relief must be considered in this connection, as it relates to, or can be made to benefit the condition of public health.

Our State has, in past years, published for the information of her citizens, Emerson's "Trees and Shrubs," and also Harris' "Insects injurious to vegetation," both in the direction of this subject, and most valuable works, but these generous actions on the part of the State were evidently not properly appreciated; and I doubt if they were sufficiently rudimentary to have generally had the desired effect.

Laws to punish those setting fires which may destroy woodlands should be very severe; and ought not such to be made a heavy crime? The writer believes so, because such destruction of property often becomes extreme, and *may* bring great hardship and loss of life with it.

Would it be well for our Board of Trustees to pass some resolution to be presented to our Legislature asking their careful consideration of this subject?*

*P. S. Since this Essay was written that resolution has been passed.

REPORT OF THE COMMITTEE ON ESSAYS, REPORTS AND STATEMENTS.

The committee charged with the awards for approved Essays, Reports and Statements received three essays for examination, and after careful criticism concluded to award ten dollars to Francis H. Appleton of Peabody, for a paper entitled "Society Thoughts." They were unable to award premiums to the other two. One of these upon the "Codlin Moth" contained useful information, and if reduced in volume and put in better shape might be brought within the limits of the Society's standard.

The committee made the following awards for Reports: To Ben: Perley Poore, $10 for report as chairman of the committee on Forest Trees, To Joseph How, $8, for report as chairman of committee on New Winter Apples—this being an interesting account of the introduction and cultivation of the Baldwin apple. No other award was made for reports.

The committee made no award for Statements, for reasons set forth in their report of last year, to which they would respectfully call attention. The statements submitted to the committee accompany claims for premiums on articles exhibited, which the statements explain. The statement is an essential part of the claimant's case. If a premium is given him for the exhibit he certainly cannot expect an award for the statement also. If a premium is refused on the exhibit it would certainly be inconsistent to make an award for the explanatory statement. Hence the committee following the usual custom have omitted to award any sums for "best statements." And they respectfully recommend to the Trustees that this item be struck out of the list of premiums to be issued in the ensuing year.

GILBERT L. STREETER, *Chairman.*

Daniel E. Safford, N. M. Hawkes, Chas. P. Preston,—*Committee.*

FARMERS' INSTITUTES.

The first Institute of the season and the 30th by this Society, was held in Town Hall, Rowley, Dec. 10th, 1884. Subject—"Commercial Fertilizers and Barn-yard Manures contrasted, with instructions in making of formulas for various crops.

Hon. J. J. H. Gregory, essayist, followed by discussion by Aaron Low, J. P. King, Geo. A. Tapley and others.

The 31st Institute was held at Peabody, Jan'y 2d, 1885. In the forenoon the subject of "Farm Buildings" was discussed in a very able manner, by Hon. Warren Brown of Hampton Falls, N. H., and others. Afternoon, the subject of the "Production of Grass and Hay" was treated by Chas. J. Peabody, followed by discussion.

The 32d Institute was held at Bradford, January 23, 1885. The subject in the forenoon was "Swine," by J. Otis Winkley of Newburyport, and discussed by others.

Afternoon, "Corn," Benjamin P. Ware, Essayist, followed by other gentlemen.

33d Institute was held at Beverly, February 6, 1885. Subject in forenoon, "Birds and insects and their relations to farmers," by Andrew Nichols, Jr. of Danvers, and others.

Afternoon, "Silos and Ensilage," by Geo. B. Forrestall of Tewkesbury and others.

The 34th Institute was held at Ipswich, Feb. 24th, 1885. Subject for discussion in forenoon, "Co-operative Milk Selling," opened by Mr. Emerson of Haverhill.

Afternoon, "General and Special farming in Essex County, by O. S. Butler of Georgetown, and others.

The 35th Institute was held at Lawrence, March 17, 1885. Subject in forenoon, "Fruit—its cultivation preservation and sale." Joseph How of Methuen, spoke on the subject of Apples, followed by Messrs. J. S. Needham, T. C. Thurlow, Boynton, Spalding, A. Kimball, Hill of N. H., Warren Brown and others.

Afternoon, G. W. Gage of Methuen, spoke upon Peaches and Grapes, followed by Aaron Low of Essex, C. H. Preston, J. Needham, Moulton, and A. Nichols, Jr.

The 36th Institute was held at Danvers, April 3d, 1885. In the forenoon, Wm. B. Carleton of Danvers led the discussion on "Neat Stock," followed by others.

Afternoon, Benjamin P. Ware gave an account of his recent journey to New Orleans Exposition.

Attest,

CHARLES P. PRESTON, *Secretary.*

From records of the Society.

Attest, DAVID W. LOW, *Secretary.*

CONSTITUTION

OF THE

ESSEX AGRICULTURAL SOCIETY.

ARTICLE 1. There shall be a President, four Vice-Presidents, a Secretary and a Treasurer, who shall be Trustees, *ex-officio*. The President, Vice Presidents and Secretary shall be elected at the annual meeting by ballot and the Treasurer by the Trustees, annually, at their meeting in November. In addition to these, one Trustee shall be elected annually for each town in the County, and the Trustee for each town shall be elected by the members of the Society in said town, at a meeting called for that purpose, in accordance with notice issued by the Secretary, and shall continue in office until another is elected in his stead ; and such election shall be final, and shall constitute the Trustee so elected a member of the Board of Trustees of the Society ; and the result of the election in each town shall be communicated as early as possible to the Secretary.

ART. 2. There shall be an Annual Meeting of the Society, at such time as the Trustees shall determine ; at which all officers shall be elected. Twenty members at least shall be necessary to constitute a quorum for the transaction of business.

ART 3. If at any meeting of the Society, or the Trustees, the President and Vice Presidents shall be absent, the members present may appoint one from among them to preside at such meeting.

ART. 4. The President, or, in case of his absence, either of the Vice Presidents, with the advice of the Trustees, may call a special meeting of the Society ; or whenever a written

application, with the reason assigned therefor, shall be made by any twelve members of the Society, to the President and Trustees, they shall call such meeting.

Art. 5. The meetings of the Trustees shall be held at such time and place as they shall from time to time agree upon; seven of whom with the presiding officer shall make a quorum.

Art. 6. The Trustees shall regulate all the concerns of the Society, during the intervals of its meetings; propose such objects of improvement to the attention of the public, publish such communications, and offer premiums in such form and value as they think proper, (provided the premiums offered do not exceed the funds of the Society); and shall lay before the Society, at each of its meetings, a statement of their proceedings and of the communications made to them.

Art. 7. The Secretary shall take minutes of all the votes and proceedings of the Society and of the Trustees, and enter them in separate books; and shall record all such communications as the Trustees shall direct. He shall write and answer all letters relating to the business of the Society.

Art. 8. The Treasurer shall receive all moneys due or payable to the Society, and all donations that may be made to it, for which he shall give duplicate receipts, one of which shall be lodged with the Secretary, who shall make a fair record thereof. The Treasurer shall from time to time pay out such moneys as he shall have orders for from the Trustees; and shall annually, and whenever thereto required, render a fair account of all his receipts and payments to the Society or a committee thereof. He shall give bonds for the faithful discharge of his duty, in such sum as the Trustees shall direct, and with such sureties.

Art. 9. A committee shall be appointed annually by the

Trustees, to audit the Treasurer's accounts, who shall report to the Society; and the same being accepted, shall be entered by the Secretary in his books.

ART. 10. In case of the death, resignation, incapacity, or removal out of the County, of the Secretary or of the Treasurer, the Trustees shall take charge of the official books, papers, and other effects, belonging to the office that may be vacated, and give receipts for the same; which books, papers, etc, they may deliver to some person whom they may appoint to fill the office until the next meeting of the Society, at which time there shall be a new choice.

ART. 11. *Any citizen of the County may become a member of the Society, by paying the sum of THREE DOLLARS to increase the permanent fund of the institution.

ART. 12. A committee shall be raised, from time to time, to solicit and receive subscriptions for raising a fund for encouraging the noblest of pursuits, the Agriculture of our country; the same to be sacredly appropriated to that purpose.

ART. 13. All ordained ministers of the Gospel who reside within the County, shall be admitted honorary members of the Society.

ART. 14. In addition to the usual number of Trustees annually elected, the past Presidents of the Society shall be honorary members of the Board of Trustees.

ART. 15. The foregoing constitution may be amended by a proposition of the amendment in writing by a member at a regular meeting; the same to lie over for action at the next annual meeting of the Society.

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*Members will receive from the Secretary a "certificate of membership." No fines or assessments are ever imposed. Members are entitled to vote in all its transactions, with free use of the Library and a copy of the "Transactions" each year.

A premium of six dollars is now offered to the resident of the County obtaining the largest number of new members during the year.

Dr. GILBERT L. STREETER, TREAS., IN ACC'T WITH THE ESSEX AG. SOCIETY. Cr.

1884.			1884.		
Nov.	To balance of previous account,	$666 83	Nov.	By amount of Premiums and Gratuities awarded by the Trustees,	$1498 00
	To Bank Dividends for October,	384 80		Bills paid for Annual Exhibition,	46 47
	To State Bounty received,	600 00		Bills paid for Printing and Advertising,	421 66
	To Cash received from Committee in charge of Annual Exhibition,	501 92		Rent to Salem Athenæum,	25 00
Dec. 1.	To State Tax on Bank Stocks refunded,	268 05		Insurance on Farm Buildings,	15 98
	To Cash received for new members,	45 00		The Secretary's account,	247 49
April 1.	To Rent of the Treadwell Farm,	300 00		The Treasurer's account,	53 00
	To Bank Dividends for April,	410 30		Balance,	986 80
	Amount of unclaimed premiums,	117 50			
		$3294 40			$3294 40

FUNDS BELONGING TO THE SOCIETY, OCTOBER, 1885.

10 shares in National Hide and Leather Bank, Boston,	$1101 87
3 shares in National Revere Bank, Boston,	377 62
18 shares in First National Bank, Salem,	1914 66
18 shares in Salem National Bank, Salem,	2000 00
42 shares in Asiatic National Bank, Salem,	1281 25
12 shares in Mercantile Bank, Salem,	1226 50
23 shares in Merchants' Bank, Salem,	1189 50
5 shares in First National Bank, Danvers,	375 00
8 shares in National Exchange Bank, Salem,	800 00
16 shares in Warren National Bank, Peabody,	1595 40
15 shares in South Danvers National Bank, Peabody,	1441 25
Cash on hand,	986 80
	14,289 85
Funds reported last year,	$13,969 88
Gain,	$319 97

G. L. STREETER, Treasurer.

Salem, Nov. 10, 1885.

Salem, Dec. 21, 1885.

The above account has been examined this day, and found correctly cast and properly vouched and the funds on hand correctly reported.

JOSEPH H. PHIPPEN.

OFFICERS OF THE SOCIETY,

FOR 1885-86.

PRESIDENT.

BENJAMIN P. WARE, OF MARBLEHEAD.

VICE PRESIDENTS.

GEORGE B. LORING, of Salem.
J. J. H. GREGORY, of Marblehead.
THOMAS C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

HONORARY TRUSTEE.

JOSEPH HOW, of Methuen.

SECRETARY.

DAVID W. LOW, of Gloucester.

TREASURER.

GILBERT L. STREETER, of Salem.

TRUSTEES.

Charles C. Blunt, Andover.	Aaron Low, Essex.
B. F. Huntington, Amesbury.	Oliver S. Butler, Georgetown.
John Meacom, Beverly.	Alonzo F. Harvey, Gloucester.
John Parkhurst, Boxford.	N. Longfellow, Groveland.
William Hilton, Bradford.	Alvin Smith, Hamilton.
Andrew Nichols, Danvers.	Richard Webster, Haverhill.

Alden Story, Ipswich.
Asa M. Bodwell, Lawrence.
John L. Shorey, Lynn.
John M. Danforth, Lynnfield.
Wm. S. Phillips, Jr., M'head.
John Price, Manchester.
Chas. W. Mann, Methuen.
James D. Pike, Merrimac.
Geo. A. Currier, Middleton.
J. Otis Winkley, Newburyport.
James Noyes, Newbury.
James C. Poor, No. Andover.
Francis H. Appleton, Peabody.
Andrew Lane, Rockport,
Benj. W. Bartlett, Rowley.
John Robinson, Salem.
Samuel Hawkes, Saugus.
John Q. Evans, Salisbury.
David Warren, Swampscott.
Chas. J. Peabody, Topsfield.
Zachariah Cole, Wenham.
Moses H. Poore, W. Newbury.

NEW MEMBERS—1885.

James D. Pike, Merrimac.
Henry Verry, Danvers.
James Kinnear, Ipswich.
Clarence Day, Danvers.
Frank A. Emery, Lawrence.
Jos. E. Ropes, Danvers.
John S. Armitage, Danvers.
George Ripley, Andover.
Chas. H. Leach, Topsfield.
T. W. Batchelder, Topsfield.
A. J. Stockbridge, Rowley.
Wm. H. Bailey, Newburyport
Wm. R. Johnson, Newbury't.
Henry Frost, Haverhill.
L. A. Woodbury, Groveland.
Burton E. Merrill, Groveland.
H. H. Hale, Bradford.
T. N. Cook, Newburyport.
C. C. Hewitt, Newburyport.
Edward Hale, Haverhill.
Geo. F. Merrill, Newburyport.
Wm. P. Coffin, Newbury.
George Little, Newbury.
George Adams, Merrimac.
M. B. Chesley, Amesbury.
S. P. Hale, Newbury.
John H. George, Methuen.
Clement R. Hanson, Salem.
Isaac P. Noyes, Newburyport.

CHANGES OF MEMBERS.

John W. Allen, Newburyport, from Newbury.
Henry Bodge, Danvers, from Peabody.
Horatio Bodge, Danvers, from Peabody.

Virgil Dow, Lawrence, from Methuen
Henry C. Harnden, Lynn, from Andover.
Jos. S. Holt, Andover, from New York.
Samuel W. Lewis, Newburyport, from Danvers.
E. C. Little, West Newbury, from Newbury.
C. N. Maguire, Newburyport, from West Newbury.
Josiah Mayo, Beverly, from Gloucester.
Samuel A. Merrill, Salem, from Lynn.
Wm. B. Morgan, Danvers, from Wenham.
G. W. Ordway, Haverhill, from Bradford.
Wm. Potter, Salem, from Danvers.
M. M. Ridgeway, Jr., W. Newbury, from Atkinson, N. H.
Chas. F. Styles, Boxford, from Groveland.
Lyman Wilkins, Danvers, from Middleton.

BECOME NON-RESIDENTS.

James E. Alley, unknown, from Marblehead.
Phineas E. Davis, Chicago, Ill., from Haverhill.
Albert W. Dodge, Brighton, from Hamilton.
Edwin C. Farwell, Reading, from Peabody.
S. E. Gilman, Kingston, N. H., from Salisbury.
Arthur M. Green, Philadelphia, Pa., from No. Andover.
H. E. Holt, Lexington, from Bradford.
Nathan Page, Jr., Wakefield, from Danvers.
Elmer P. Sargent, Malden, from Merrimac.

CORRECTIONS OF LIST OF MEMBERS PUBLISHED IN 1884.

Philip H. Martino, Groveland, instead of Philip H. Martin.

Wm. F. Whitmore, Groveland, instead of Wm. F. Whitman.

Wm. P. Christopher, Middleton, instead of Wm. Christopher.

Daniel H. Hale, Rowley, omitted.

Joshua Foss, Rowley, living. marked *, dead.

Maurice Birmingham, Salem, instead of M. Bermingham.

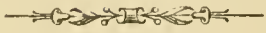
Wm. F. M. Collins, Salem, instead of Wm. Collins.

E. Henry Morse, Salem, instead of Ebenezer Morse.

Frank W. White, Salem, instead of Frank White.

Robert Dodge, Wenham, instead of Richard F.

LIST OF PREMIUMS.



FAT CATTLE.

S. & N. Longfellow, Groveland, pair oxen, first premium,	$10 00
R. T. Jaques, Newbury, pair oxen, second premium,	8 00
James Ferguson, West Newbury, third premium,	4 00

BULLS.

Thos. Sanders, Haverhill, Jersey bull over two years, first premium,	10 00
H. H. Hale, Bradford, Jersey bull over two years, second premium,	5 00
H. H. Hale, Bradford, Jersey bull under two years, first premium,	5 00
Otis Mann, Byfield, Jersey bull under two years, second premium,	3 00
H. H. Hale, Bradford, Guernsey bull over two years, first premium,	10 00
D. A. Massey, Danvers, Ayrshire bull calf, first premium,	2 00
D. A. Massey, Danvers, best bull of any age or breed, with five of his stock, Ayrshire bull, first premium,	12 00

MILCH COWS.

T. N. Cook, Newburyport, Jersey cow, first premium,	10 00
T. N. Cook, Newburyport, Jersey cow, second premium,	4 00

HERD OF MILCH COWS.

Jerry Cashman, Newburyport, herd of Grade Jersey, second premium,	12 00

HEIFERS—FIRST CLASS.

D. A. Massey, Danvers, Ayrshire in milk, first premium,	10 00
D. A. Massey, Danvers, Ayrshire two years old, first premium,	4 00
D. A. Massey, Danvers, Ayrshire one year old, first premium,	4 00
D. A. Massey, Danvers, Ayrshire one year old, second premium,	2 00

J. P. Gardner, Hamilton, Jersey one year old, first premium, 4 00
J. P. Gardner, Hamilton, Jersey one year old, second premium, 2 00

HEIFERS—SECOND CLASS.

James Noyes, Newbury, Grade Ayrshire, four years old, first premium, 10 00
Paul T. Winkley, Newburyport, Grade Durham and Jersey, two years old, first premium, 4 00
Richard Newell, West Newbury, Grade Jersey, one year old, second premium, 2 00
Silas M. Titcomb, West Newbury, Grade Ayrshire calf, first premium, 4 00
Charles W. Adams, Newbury, Grade Durham calf, second premium, 2 00

WORKING OXEN AND STEERS.

Wm. P. Christopher, Middleton, oxen, first premium, 12 00
Thos. G. Ordway, West Newbury, oxen, second premium, 10 00
Lyman Wilkins, Danvers, oxen, third premium, 8 00

TOWN TEAMS.

Town of West Newbury, oxen, 20 00
Town of Newbury, oxen, 12 00

STEERS.

Wm. P. Christopher, Middleton, pair two years old steers, first premium, 6 00
James Noyes, Newbury, yearling steers, first premium, 5 00
Jonas Rollins, Danvers, yearling steers, second premium, 4 00
W. W. Perkins, Newbury, steer calf, first premium, 4 00

STALLIONS.

H. H. Hale, Bradford, stallion four years old and upwards, first premium, 10 00
J. J. Downing, Andover, stallion four years old, and upwards, second premium, 6 00
Edward Donahue, Newburyport, stallion four years old and upwards, third premium, 4 00
C. C. Hewett, Newburyport, stallion three years old, first premium, 8 00
J. P. Gardner, Hamilton, stallion three yeare old, second premium, 5 00

BROOD MARES.

Edward Hale, Haverhill, mare, with her foal, first premium,	10 00
Jos. N. Rolfe, Newbury, mare, with her foal, second premium,	6 00
Edwin Bates, Lynn, Mass., mare, with her foal, third premium,	4 00

FAMILY HORSES.

S. P. Hale, Newbury, horse, first premium,	10 00
T. K. Bartlett, Newburyport, horse, second premium,	6 00
H. H. Hale, Bradford, horse, third premium.	4 00

GENTLEMEN'S DRIVING HORSES.

S. F. Newman, Newbury, second premium,	6 00
H. H. Hale, Bradford, third premium,	4 00

FARM AND DRAFT HORSES.

Peter Holt, Jr., North Andover, first premium,	10 00
Richard S. Bray, Newbury, second premium,	6 00
J. A. Illsley, Georgetown, third premium,	4 00

PAIRS OF DRAFT HORSES.

Walter F. Dodge, Beverly, first premium,	12 00
C. N. Maguire, Newburyport, second premium,	8 00
J. K. Adams, Newbury, third premium,	4 00

COLTS—FIRST CLASS.

J. J. Downing, Andover, four years old, first premium,	10 00
J. B. Nichols, Haverhill, four years old, second premium,	6 00
D. A. Brown, Newbury, four years old, third premium,	4 00
J. J. Downing, Andover, three years old, first premium,	8 00
Augustus Safford, Newburyport, three years old, second premium,	5 00

COLTS—SECOND CLASS.

H. H. Dempsey, Wenham, two years old, first premium,	6 00
H. H. Hale, Bradford, yearling, first premium,	6 00
Ben. Perley Poore, West Newbury, yearling, second premium,	4 00

SWINE—FIRST CLASS.

D. A. Perley, Danvers, weaned pigs, first premium,	8 00
Jerry Cashman, Newburyport, weaned pigs, second premium,	5 00

Jerry Cashman, Newburyport, Chester boar, first premium,	8 00
W. W. Perkins, Newbury, Yorkshire boar, second premium,	5 00
W. W. Perkins, Newbury, Breeding sow, second premium,	5 00

SWINE—SECOND CLASS.

H. H. Hale, Bradford, Yorkshire boar, first premium,	8 00
F. R. Adams, Newbury, Yorkshire boar, second premium,	5 00
Geo. F. Mc rill, Newburyport, litter of weaned pigs, first premium,	8 00

SHEEP.

Charles Perley, West Boxford, Southdown, first premium,	10 00
Thomas Sanders, Haverhill, Merino, second premium,	6 00
Richard Newell, West Newbury, Southdown buck, first premium.	8 00
Charles Perley, West Boxford, lambs, first premium,	4 00

PLOWING—DOUBLE OX TEAM.

Jaques & Bray, Newbury, first premium,	12 00
Wm. P. Coffin, Newbury, second premium,	10 00
Wm. W. Perkins, Newbury, third premium.	9 00
Horace P. & James Noyes, Newbury, fourth premium,	8 00
Carlton & Geo. Little, Newbury, gratuity,	8 00

PLOWING WITH HORSES.

Paul T. Winkley, Jr., Newburyport, first premium,	10 00
S. F. Newman, Newbury, second premium,	7 00
C. N. Maguire, Newburyport, third premium,	5 00

PLOWING WITH THREE OR MORE HORSES.

Edward Kent, Newbury, four horses, first premium,	10 00
Frank Perkins, Newbury, three horses, first premium,	10 00

PLOWING—SWIVEL PLOW.

Lyman Wilkins, Danvers, and W. P. Christopher, Middleton, Double Ox Team, second premium,	10 00
Jonas Rollins, Danvers, two horses, first premium,	10 00

PLOWING SULKY PLOW.

A. J. Stockbridge, Rowley, first premium,	10 00
S. S. Pratt, Danvers, second premium,	8 00

IMPROVING WET MEADOW AND SWAMP LAND.

John H. George, Methuen, Reclaiming Wet Meadow Land, first premium,	15 00

IMPROVING PASTURE AND WASTE LANDS.

Clement R. Hanson, Salem, Improvement of Waste Land, 15 00

GRAIN CROPS.

Richard Newell, West Newbury, Rye Crop, first premium, 10 00
Oliver P. Killam, Boxford, Corn Crop, first premium, 10 00
Joseph H. Lunt, Newbury, Corn Crops, second premium, 5 00
Chas. W. Woods, Newbury, Field Beans, first premium, 10 00

ROOT CROPS.

David Warren, Swampscott, Onion Crop, first premium, 10 00
John H. George, Methuen, Onion Crop, second premium, 5 00
John H. George, Methuen, Potato Crop, first premium, 10 00
Daniel Carlton, No. Andover, Cabbage Crop, first premium, 10 00
Chas. W. Mann, Methuen, Cabbage Crop, second premium, 5 00
Cyrus K. Ordway & Son, W. Newbury, Carrot Crop, first premium, 10 00

FOREST TREES.

J. D. W. French, North Andover, Sugar Maples, first premium, 10 00

STRAWBERRIES AND OTHER SMALL FRUITS.

Wm Huff, Newburyport, Currant Crop, first premium, 10 00
Henry K. West, Haverhill, Raspberry Crop, first premium, 10 00

NEW WINTER APPLES.

Alfred Ordway, Bradford, Gratuity, 20 00

ESSAYS AND REPORTS.

Francis H. Appleton, Peabody, Essay, Society Thoughts, second premium, 10 00
Ben. Perley Poore, West Newbury, Report on Forest Trees, first premium, 10 00
Joseph How, Methuen, Report on New Winter Apples, second premium, 8 00

MASS. AGRICULTURAL COLLEGE SCHOLARSHIP.

Joseph Martin, Marblehead, 25 00
George E. Newman, Newbury, 25 00

Awarded by Committee on Poultry,				37 00
"	"	"	" Agricultural Implements,	31 00
"	"	"	" Carriages,	17 00
"	"	"	" Dairy,	39 00
"	"	"	" Bread, Honey, etc.,	24 00
"	"	"	" Pears,	93 50
"	"	"	" Apples,	92 00
"	"	"	" Peaches, Grapes, etc.,	63 00
"	"	"	" Flowers,	62 25
"	"	"	" Vegetables,	166 00
"	"	"	" Counterpanes, Rugs, etc.,	35 50
"	"	"	" Articles manuf'd from Leather,	16 00
"	"	"	" Manufactures and General Mdse.,	4 00
"	"	"	" Fancy Work and Works of Art,	50 00
"	"	"	" Children's Work,	16 00
				$1596 25

RECAPITULATION.

FARMS.

Amount awarded to Ploughing,	$127 00	
" " for reclaiming wet land,	15 00	
" " " improving waste land,	15 00	
" " " Forest Trees,	10 00	
		$167 00

FARM STOCK.

Amount awarded to Fat Cattle,	22 00	
" " " Bulls,	47 00	
" " " Milch Cows,	14 00	
" " " Herd of Milch Cows,	12 00	
" " " Heifers,	48 00	
" " " Working Oxen,	30 00	
" " " Town Teams,	32 00	
" " " Steers,	19 00	
" " " Horses,	127 00	
" " " Colts,	49 00	
" " " Swine,	52 00	
" " " Sheep,	28 00	
" " " Poultry,	37 00	
		$517 00

FARM PRODUCTS.

Amount awarded to Grain Crops,	35 00	
" " " Root Crops,	50 00	
" " " Dairy,	39 00	
" " " Bread, Honey, etc.,	24 00	
" " " Fruits,	288 50	
" " " Flowers,	62 25	
" " " Vegetables,	166 00	
		$664 75
Amount awarded to Domestic Manufactures,		121 50
All other objects,		126 00
		$1596 25

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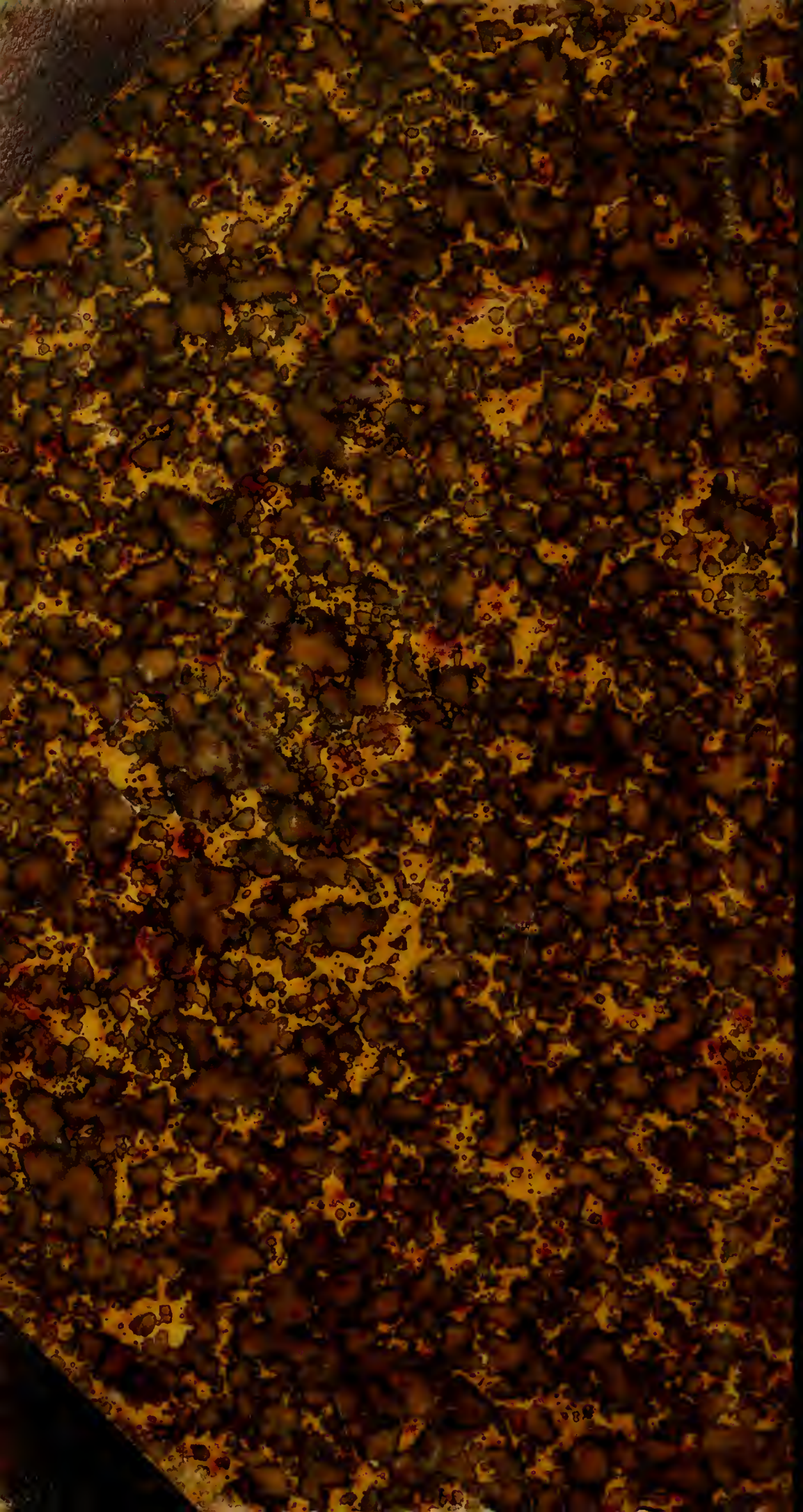
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